0094055

FINAL REPORT

CONSTRUCTION QUALITY ASSURANCE (CQA)

SECTION

17 OF 20





| Project ID: | 01-0032 ERDF Cells 9-11 | O Construction | Report Number: | 5-16-100 |
|----------------|--|----------------|----------------|--------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Wednesday, June 30, 2010 |
| Contractor(s): | TradeWind Services | 3 | Weather: | Clear: Hi: 78°F Lo: 50°F |
| | district the state of the state | | and a second | Wind: 21-mph |

CONSTRUCTION ACTIVITIES

- 4.0 <u>Secondary Geomembrane Deployment</u> CQA observed ESI conducting repairs and testing on the secondary geomembrane panels S-43 to S-50. CQA verified that all non-destructive testing met specifications. Panel S-43/tie-in panel remains open and unsealed.
- 5.0 <u>Secondary Geocomposite</u> The inadequate composite overlapped and tied seams identified in Report 5-16-099 were corrected and retied. CQA verified that the seams were correctly tied and overlapped. Also, CQA observed ESI sewing the textile overlaps of the geocomposite and leistering textile patches over the geocomposite butt seams.
- 6.0 Primary Geomembrane CQA observed ESI deploying primary geomembrane panels P-03 to P-07 over accepted secondary geocomposite on the south slope and floor of Cell 9. The panels were deployed from the south anchor trench down the south embankment. A rub sheet was utilized to aid the geomembrane placement over the secondary geocomposite. A rub sheet was placed on the floor of Cell 9, and a track skid steer was used to pull the primary geomembrane over the primary geocomposite.

After the sheets were deployed, two fusion welders seamed the primary geomembrane together.

- 7.0 <u>Drainage Gravel</u> CQA observed TWS hauling 1,287 tons of Type A drainage gravel to site. The gravel was stockpiled to the southeast of Cell 10.
- 8.0 Leachate Transmission Line CQA witnessed BMWC welding the riser pipes for Cell 10. The pipe was stockpiled east of Cell 10.

M1 Page 150 of 376

ENVIROTECH-CQA DATE





| Project ID: | 01-0032 ERDF Cells 9-11 |) Construction | Report Number: | 5-16-101 |
|----------------|-------------------------|----------------|----------------|---|
| Job Number: | S013213A00 | Staff On-site | Date: | Thursday, July 1, 2010 |
| Contractor(s): | TradeWind Services | 3 | Weather: | Pt. Cloudy: Hi: 83°F Lo: 52°F Wind: 33-mph |

| FIELD NOTEBOOKS | | | | | | |
|-----------------------|--------------|--------------------|--------------|--|--|--|
| Lucas Hay Book 2 | Pages: 32-34 | James Schut Book 1 | Pages: 45-46 | | | |
| Tyler Williams Book 2 | Pages: 75-77 | | | | | |

| FIELD TESTING | | | | | |
|---|--|------------------|------------------------------------|--|--|
| Submittal 5-18E Belt Scale Measurements | July 1, 2010 | 5,441Tons | Passed | | |
| Submittal 5-18J Cell 9:Admix Testing | Lifts: 5 and 6 | SL-496 to SL-506 | Passed | | |
| Submittal 5-18J Cell 9:Admix Testing | Lifts: 1 and 3 | SL-507 to SL-513 | Passed | | |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 3 – Cell 9 North Slope Grid D5 | SL-487 | Perm: On-going | | |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 3 – Cell 9 North Slope Grid A4 | SL-499 | Sample Collected Perm: On-going | | |

| CQA HOLD POINTS | | | | | | |
|--|--------------|-----------------------|--|--|--|--|
| Submittal 5-18R-036 Cell 10 Subgrade | July 1, 2010 | Grids: M7, M8, and M9 | | | | |
| Submittal 5-18R-037 Cell 9 Primary Subgrade | July 1, 2010 | Panels: P-08 to P-13 | | | | |

| LABORATORY TESTING | | | | | | |
|--------------------------|-------|------------------------------------|--|--|--|--|
| 5-18D Admix Soil Testing | AM-19 | Sample Collected USCS: On-going | | | | |

CONSTRUCTION ACTIVITIES

- 1.0 <u>Subgrade</u> CQA observed TWS proof rolling the subgrade of Cell 9 and Cell 10 with the CAT 563 smooth drum roller to keep a level and smooth surface for haul traffic. CQA also observed TWS moisture conditioning the admix subgrade prior to admix placement. CQA verified that moisture had penetrated 4-in into the subgrade prior to admix placement.
- 2.0 Admix Production TWS produced a total of 5,441 tons of admix material on Thursday, July 1, 2010. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications.
- 3.0 Admix Placement CQA observed TWS using two CAT D6 GPS dozers to place admix on the north slope and east of the lysimeter of Cell 9. In addition, CQA observed TWS placing admix on the southwest corner of the Cell 10 floor. CQA observed TWS using two (2) CAT 825 sheepsfoot compactors to compact the admix. CQA tested and verified that each lift placed was properly moisture condition, compacted and that the lift met the contract specifications. Please refer to Submittal 5-18J Admix Field Data for lift completion data for all grids.

At the end of the day all unfinished admix was back dragged with the blade on the CAT D6 dozer to seal the admix. Sealing the admix prevent excessive moisture loss overnight





| Project ID: | 01-0032 ERDF Cells 9-1 | 0 Construction | Report Number: | 5-16-101 |
|----------------|------------------------|----------------|----------------|--|
| Job Number: | S013213A00 | Staff On-site | Date: | Thursday, July 1, 2010 |
| Contractor(s): | TradeWind Services | 3 | Weather: | Clear: Hi: 83°F Lo: 52°F Wind: 33-mph |

CONSTRUCTION ACTIVITIES

- 4.0 <u>Secondary Geomembrane Deployment</u> CQA observed ESI conducting repairs and testing on the secondary geomembrane panels S-43 to S-50. CQA verified that all non-destructive testing met specifications. Panel S-43/tie-in panel remains open and unsealed.
- 5.0 Secondary Geocomposite CQA observed ESI deploying secondary geocomposite along the south berm and the floor of Cell 9. CQA ensured that the geocomposite was joined with plastic zip ties as per the contract specifications. CQA observed the geotextile side overlaps were secured by sewing and the end overlaps were secured by leisters. CQA also verified that the end seams on the slopes were staggered a minimum of 10-ft apart.
- 6.0 <u>Primary Geomembrane</u> CQA observed ESI deploying primary geomembrane panels P-08 to P-13 over accepted secondary geocomposite on the south slope and floor of Cell 9. The panels were deployed from the south anchor trench down the south embankment. A rub sheet was utilized to aid the geomembrane placement over the secondary geocomposite. A rub sheet was placed on the floor of Cell 9, and a track skid steer was used to pull the primary geomembrane over the secondary geocomposite.

After the sheets were deployed, two fusion welders seamed the primary geomembrane together.

- 7.0 <u>Drainage Gravel</u> CQA observed TWS hauling 1,440 tons of Type A drainage gravel to site. The gravel was stockpiled to the southeast of Cell 10.
- 8.0 <u>Leachate Transmission Line</u> CQA witnessed BMWC welding the riser pipes for Cell 10. The pipe was stockpiled east of Cell 10.

In addition, CQA observed the CAT 330 excavator trimming the north embankment slope to grade between manholes MH-36 and MH-38.

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7/10/10 DATE

M1 Page 152 of 376





| Project ID: | 01-0032 ERDF Cells 9-10 |) Construction | Report Number: | 5-16-102 |
|----------------|-------------------------|----------------|----------------|-----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Friday, July 2, 2010 |
| Contractor(s): | TradeWind Services | 3 | Weather: | Cloudy: Hi: 74°F Lo: 54°F |
| | | | | Wind: 33-mph Rain: 0.02-in. |

| FIELD NOTEBOOKS | | | | | | |
|-----------------------|--------------|--------------------|--------------|--|--|--|
| Lucas Hay Book 2 | Pages: 35 | James Schut Book 1 | Pages: 47-48 | | | |
| Tyler Williams Book 2 | Pages: 78-80 | | | | | |

| | FIELD TESTING | | |
|---|--|------------------|----------------|
| Submittal 5-18E Belt Scale Measurements | July 2, 2010 | 4,086Tons | Passed |
| Submittal 5-18J Cell 9:Admix Testing | Lift: 6 | SL-524 | Passed |
| Submittal 5-18J Cell 10:Admix Testing | Lifts: 1 and 3 | SL-514 to SL-527 | Passed |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 3 – Cell 9 North Slope Grid D5 | SL-487 | Perm: On-going |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 3 – Cell 9 North Stope Grid A4 | SL-499 | Perm: On-going |

| | CQA HOLD P | OINTS | | |
|--------------------------------------|--------------|-----------|------------|--|
| Submittal 5-18R-038 Cell 10 Subgrade | July 2, 2010 | Grids: N7 | O7, and P7 | |

| | LABORATORY TESTING | | |
|--------------------------|--------------------|----------|--------|
| 5-18D Admix Soil Testing | AM-19 | USCS: Or | -going |

GENERAL ACTIVITIES

1.0 Rain Event – At the end of the day, a small rain shower occurred. Since all geomembrane was seamed, no damage to the underlying subgrade occurred; however, the sump area was filled with water and will be addressed at a later date.

CONSTRUCTION ACTIVITIES

- 1.0 Subgrade CQA observed TWS proof rolling the subgrade of Cell 9 and Cell 10 with the CAT 563 smooth drum roller to keep a level and smooth surface for haul traffic. CQA also observed TWS moisture conditioning the admix subgrade prior to admix placement. CQA verified that moisture had penetrated 4-in into the subgrade prior to admix placement.
- 2.0 Admix Production TWS produced a total of 4,086 tons of admix material on Friday, July 2, 2010. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications.





| Project ID: | 01-0032 ERDF Cells 9-10 |) Construction | Report Number: | 5-16-102 |
|----------------|-------------------------|----------------|----------------|-----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Friday, July 2, 2010 |
| Contractor(s): | TradeWind Services | 3 | Weather: | Cloudy: Hi: 74°F Lo: 54°F |
| | | | | Wind: 33+mph Rain: 0.02-in. |

CONSTRUCTION ACTIVITIES

3.0 Admix Placement - CQA observed TWS using two CAT D6 GPS dozers to place admix in the lysimeter of Cell 9. In addition, CQA observed TWS placing admix on the south half of the Cell 10 floor. CQA observed TWS using two (2) CAT 825 sheepsfoot compactors to compact the admix. CQA tested and verified that each lift placed was properly moisture condition, compacted and that the lift met the contract specifications. Please refer to Submittal 5-18J Admix Field Data for lift completion data for all grids.

At the end of the day all unfinished admix was back dragged with the blade on the CAT D6 dozer to seal the admix. Sealing the admix prevent excessive moisture loss overnight.

- 4.0 <u>Secondary Geomembrane Deployment</u> CQA observed ESI completing repairs and non-destructive testing on the south slope prior to deployment of the secondary geocomposite. In addition, CQA observed ESI welding panel S-43 to the Cell 8 tie-in that had been left exposed.
- 5.0 Secondary Geocomposite CQA observed ESI deploying secondary geocomposite along the south berm and floor of Cell 9. CQA ensured that the geocomposite was joined with plastic zip ties as per the contract specifications. CQA observed the geotextile side overlaps were secured by sewing and the end overlaps were secured by leisters. CQA also verified that the end seams on the slopes were staggered a minimum of 10-ft apart.
- 6.0 Primary Geomembrane CQA observed ESI conducting repairs and non-destructive testing on the previously deployed primary panels P-01 to P-13. CQA verified that all repairs met construction specifications. In addition, CQA observed ESI cutting destructive tests and repairing the cut areas.
- 7.0 <u>Drainage Gravel</u> CQA observed TWS hauling 1.541 tons of Type A drainage gravel to site. The gravel was stockpiled to the southeast of Cell 10.

ENVIROTECH - CQA

7/10/10

M1 Page 154 of 376





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-103 |
|----------------|--|---------------|----------------|--------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Tuesday, July 6, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Clear: Hi: 88°F Lo: 58°F |
| | Language Control of the Control of t | | | Wind: 20-mph |

| FIELD NOTEBOOKS | | | | | |
|-----------------------|--------------|--------------------|----------------|--|--|
| Lucas Hay Book 2 | Pages: 36-37 | Joe Voss Book I | Pages: 126-128 | | |
| Tyler Williams Book 2 | Pages: 81-83 | James Schut Book 1 | Pages: 49-51 | | |

| FIELD TESTING | | | | |
|---|--|------------------|----------------|--|
| Submittal 5-18E Belt Scale Measurements | July 6, 2010 | 4.259Tons | Passed | |
| Submittal 5-18J Cell 10:Admix Testing | Lifts: 1 and 2 | SL-528 to SL-541 | Passed | |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 3 – Cell 9 North Slope Grid D5 | SL-487 | Perm: On-going | |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 3 – Cell 9 North Slope Grid A4 | SL-499 | Perm: On-going | |

| | CQA HOLD POINT | TS |
|--|----------------|----------------------------|
| Submittal 5-18R-039 Cell 10 Subgrade | July 6, 2010 | Grids: N8, O8, P8, and M10 |
| Submittal 5-18R-040 Cell 9 Primary Subgrade | July 6, 2010 | Panels: P-08 to P-13 |

| LABORATORY TESTING | | | | | |
|------------------------------|---------|--|--|--|--|
| 5-18D Admix Soil Testing | AM-19 | USCS: On-going | | | |
| 5-18D Admix Soil Testing- | AM-20 | Sample Collected USCS: On-going | | | |
| 5-18K Type A Drainage Gravel | DG-A-01 | Sample Collected Perm and USCS: On-going | | | |

GENERAL ACTIVITIES

- 1.0 Rain Event TWS began evacuating water from the Cell 9 sump with a submersible pump. The water was removed to the Cell 10 sump and the admix is being allowed to air dry.
- 2.0 <u>Surveyor</u> Stratton Surveying was on-site to capture the admix thickness on the north slope and floor as well as liner repair and seam locations.
- 3.0 Composite Tie-in The design drawings show the secondary composite tie-in to the secondary drain gravel along the floor of Cell 9 to have a 2-ft overlap. TWS submitted an SDDR to request no overlap of the secondary drainage gravel to composite due to the limited amount of space available to perform the activity





| Project ID: | 01-0032 ERDF Cells 9-10 |) Construction | Report Number: | 5-16-103 |
|----------------|-------------------------|----------------|----------------|--------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Tuesday, July 6, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Clear: Hi: 88°F Lo: 58°F |
| | 40.00 | | | Wind: 20-mph |

CONSTRUCTION ACTIVITIES

- 1.0 <u>Subgrade</u> CQA observed TWS proof rolling the subgrade of Cell 9 and Cell 10 with the CAT 563 smooth drum roller to keep a level and smooth surface for haul traffic. CQA also observed TWS moisture conditioning the admix subgrade prior to admix placement. CQA verified that moisture had penetrated 4-in into the subgrade prior to admix placement.
- 2.0 Admix Production TWS produced a total of 4,259 tons of admix material on Tuesday, July 6, 2010. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications.
- 3.0 Admix Placement CQA observed TWS using two CAT D6 GPS dozers to place admix on the south half of the Cell 10 floor and slope. CQA observed TWS using two (2) CAT 825 sheepsfoot compactors to compact the admix. CQA tested and verified that each lift placed was properly moisture condition, compacted and that the lift met the contract specifications. Please refer to Submittal 5-18J Admix Field Data for lift completion data for all grids.

At the end of the day all unfinished admix was back dragged with the blade on the CAT D6 dozer to seal the admix. Sealing the admix prevent excessive moisture loss overnight.

The CQA surveyors were on-site to verify admix lift thickness on the north berm.

- 4.0 <u>Secondary Geomembrane Deployment</u> The CQA surveyor, Stratton Surveying, was on-site to perform the secondary liner as-built survey.
- 5.0 Secondary Geocomposite CQA observed ESI deploying secondary geocomposite along the south berm and floor of Cell 9. CQA ensured that the geocomposite was joined with plastic zip ties as per the contract specifications. CQA observed the geotextile side overlaps were secured by sewing and the end overlaps were secured by leisters. CQA also verified that the end seams on the slopes were staggered a minimum of 10-ft apart.
- 6.0 Primary Geomembrane CQA observed ESI deploying primary geomembrane panels P-14 to P-17 over accepted secondary geocomposite on the south slope and floor of Cell 9. The panels were deployed from the south anchor trench down the south embankment. A rub sheet was utilized to aid the geomembrane placement over the secondary geocomposite. A rub sheet was placed on the floor of Cell 9, and a track skid steer was used to pull the primary geomembrane over the secondary geocomposite.

After the sheets were deployed, two fusion welders seamed the primary geomembrane together.

- 7.0 <u>Drainage Gravel</u> CQA observed TWS hauling 1,625 tons of Type A drainage gravel to site. The gravel was stockpiled to the southeast of Cell 10. Sample DG-A-01 collected from stockpile.
- 8.0 <u>Leachate Transmission Line</u> CQA witnessed BMWC welding the riser pipes for Cell 10. The pipe was stockpiled east of Cell 10.

ENVIROTECH-CQA

7/10/10 DATE





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-104 |
|----------------|-------------------------|---------------|----------------|--------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Wednesday, July 7, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Clear: Hi: 96°F Lo: 58°F |
| | on preparate | | ppopper | Wind: 20-mph |

| FIELD NOTEBOOKS | | | | | |
|-----------------------|--------------|--------------------|----------------|--|--|
| Lucas Hay Book 2 | Pages: 38-39 | Joe Voss Book 1 | Pages: 128-130 | | |
| Tyler Williams Book 2 | Pages: 84-86 | James Schut Book 1 | Pages: 52-53 | | |

| | FIELD TESTING | | |
|---|--|------------------|--------------|
| Submittal 5-18E Belt Scale Measurements | July 7, 2010 | 2,935Tons | Passed |
| Submittal 5-18J Cell 10:Admix Testing | Lifts: I and 2 | SL-542 to SL-557 | Passed |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 3 – Cell 9 North Slope Grid D5 | SL-487 | Perm: Passed |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 3 – Cell 9 North Slope Grid A4 | SL-499 | Perm: Passed |

| - | | CQA HOLD PO | INTS | |
|---|--------------------------------------|--------------|------------|------------|
| | Submittal 5-18R-041 Cell 10 Subgrade | July 7, 2010 | Grids: N9. | O9, and P9 |

| LABORATORY TESTING | | | | | |
|------------------------------|---------|--|--|--|--|
| 5-18D Admix Soil Testing | AM-19 | USCS: Passed | | | |
| 5-18D Admix Soil Testing | AM-20 | USCS: Passed | | | |
| 5-18D Admix Soil Testing | AM-21 | Sample Collected USCS, Proctor, and Perm: On-going | | | |
| 5-18K Type A Drainage Gravel | DG-A-01 | Perm and USCS: On-going | | | |
| 5-18K Type A Drainage Gravel | DG-A-02 | Sample Collected Perm and USCS: On-going | | | |

GENERAL ACTIVITIES

1.0 Geocomposite Receiving – Based upon production information provided by Skaps, the CQA geosynthetic testing laboratory performed sampling and testing of the geocomposite. However, the roll list provided by Skaps and the shipped roll list do not match. Geocomposite roll numbers 354710823 to 354710864 have been delivered to site, but neither show up on the information provided by the manufacturer nor have been conformance tested. CQA and CQC shall work on resolving the inconsistency.

CONSTRUCTION ACTIVITIES

1.0 Subgrade - CQA observed TWS proof rolling the subgrade of Cell 9 and Cell 10 with the CAT 563 smooth drum roller to keep a level and smooth surface for haul traffic. CQA also observed TWS moisture conditioning the admix subgrade prior to admix placement. CQA verified that moisture had penetrated 4-in into the subgrade prior to admix placement.





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-104 |
|----------------|--------------------------------------|---------------|----------------|---|
| Job Number: | S013213A00 | Staff On-site | Date: | Wednesday, July 7, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Clear : Hi: 96°F Lo: 58°F Wind: 20-mph |

CONSTRUCTION ACTIVITIES

- 2.0 Admix Production TWS produced a total of 2,935 tons of admix material on Wednesday, July 7, 2010. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications. The pugmill shut down early for routine maintenance.
- 3.0 Admix Placement CQA observed TWS using two CAT D6 GPS dozers to place admix on the south half of the Cell 10 floor and slope. CQA observed TWS using two (2) CAT 825 sheepsfoot compactors to compact the admix. CQA tested and verified that each lift placed was properly moisture condition, compacted and that the lift met the contract specifications. Please refer to Submittal 5-18J Admix Field Data for lift completion data for all grids.

At the end of the day all unfinished admix was back dragged with the blade on the CAT D6 dozer to seal the admix. Sealing the admix prevent excessive moisture loss overnight.

CQA observed TWS utilizing the CAT D6 dozer to trim the admix on the north half of Cell 9 to grade.

CQA observed the CAT 312 loading excess admix soil at the top of the Cell 9 slope into a Payhauler truck and removing the soil from the cell. CQA then observed TWS utilizing the CAT 312 excavator to excavate the Cell 9 leachate riser trench aided by the TWS surveyor.

- 4.0 Anchor Trench CQA observed ESI welding the primary geomembrane to the secondary geomembrane in the south anchor trench from panel P-01 to P-17.
- 5.0 Secondary Geocomposite CQA observed ESI deploying secondary geocomposite along the south berm and floor of Cell 9 up to the Cell 9 tie-in; however, the tie-in was not completed. In addition, CQA observed ESI deploying geocomposite east to west on the floor of Cell 9. CQA ensured that the geocomposite was joined with plastic zip ties as per the contract specifications. CQA observed the geotextile side overlaps were secured by sewing and the end overlaps were secured by leisters. CQA also verified that the end seams on the slopes were staggered a minimum of 10-ft apart.
- 6.0 Primary Geomembrane CQA observed ESI deploying primary geomembrane panels P-14 to P-17 over accepted secondary geocomposite on the south slope and floor of Cell 9. The panels were deployed from the south anchor trench down the south embankment. A rub sheet was utilized to aid the geomembrane placement over the secondary geocomposite. A rub sheet was placed on the floor of Cell 9, and a track skid steer was used to pull the primary geomembrane over the secondary geocomposite.

After the sheets were deployed, two fusion welders seamed the primary geomembrane together.

- 7.0 <u>Drainage Gravel</u> CQA observed TWS hauling 2,317 tons of Type A drainage gravel to site. The gravel was stockpiled to the southeast of Cell 10. Sample DG-A-02 collected from stockpile.
- 8.0 <u>Leachate Transmission Line</u> CQA witnessed BMWC welding the riser pipes for Cell 10. The pipe was stockpiled east of Cell 10.

ENVIROTECH-CQA

7/10/10

M1 Page 158 of 376





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-105 |
|----------------|-------------------------|---------------|----------------|--------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Thursday, July 8, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Clear: Hi: 99°F Lo: 60°F |
| | | | | Wind: 17-mph |

| FIELD NOTEBOOKS | | | | | |
|-----------------------|--------------|--------------------|--------------|--|--|
| Lucas Hay Book 2 | Pages: 40-41 | Joe Voss Book I | Pages: 131 | | |
| Tyler Williams Book 2 | Pages: 87-90 | James Schut Book 1 | Pages: 54-56 | | |

| | FIELD TESTING | | |
|---|----------------------------|------------------|------------------|
| Submittal 5-18E Belt Scale Measurements | July 7, 2010 | 5,315Tons | Passed |
| Submittal 5-18J Cell 10:Admix Testing | Lifts: 1, 2, 3, and 4 | SL-558 to SL-570 | Passed |
| Submittal 5-18J Admix Field Testing | Lift No. 4 - Cell 10 South | SL-564 | Sample Collected |
| Permeability | Slope Grid P6 | | Perm: On-going |

| | CQA HOLD POINTS | |
|--------------------------------------|-----------------|--------------------------|
| Submittal 5-18R-042 Cell 10 Subgrade | July 8, 2010 | Grids: N10, O10, and P10 |

| | LABORATORY TES | TING |
|------------------------------|----------------|-----------------------------------|
| 5-18D Admix Soil Testing | AM-21 | USCS, Proctor, and Perm: On-going |
| 5-18K Type A Drainage Gravel | DG-A-01 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-02 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-03 | Sample Collected |
| | 2000000 | Perm and USCS: On-going |

GENERAL ACTIVITIES

1.0 Geocomposite Tie-in – Tyler Williams with CQA, Tim Wintel with WCH Engineering, and Rodger Hoben with TWS met on the geocomposite tie-in. Tim indicated that the intent was either maintain 1-ft of drainage gravel or geocomposite over the secondary liner in all locations. However, Tim maintained that he had to verify the exact formation of the geocomposite tie-in with the design engineers.

CONSTRUCTION ACTIVITIES

- 1.0 Subgrade CQA observed TWS proof rolling the subgrade of Cell 9 and Cell 10 with the CAT 563 smooth drum roller to keep a level and smooth surface for haul traffic. CQA also observed TWS moisture conditioning the admix subgrade prior to admix placement. CQA verified that moisture had penetrated 4-in into the subgrade prior to admix placement.
- 2.0 Admix Production TWS produced a total of 5,315 tons of admix material on Thursday, July 8, 2010. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications.





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-105 |
|----------------|--|---------------|----------------|------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Thursday, July 8, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Clear : Hi: °F Lo: °F |
| accessor. | non-department of the second o | | | Wind: -mph |

CONSTRUCTION ACTIVITIES

3.0 Admix Placement – CQA observed TWS using two CAT D6 GPS dozers to place admix on the south half of the Cell 10 floor and slope. CQA observed TWS using two (2) CAT 825 sheepsfoot compactors to compact the admix. CQA tested and verified that each lift placed was properly moisture condition, compacted and that the lift met the contract specifications. Please refer to Submittal 5-18J Admix Field Data for lift completion data for all grids.

At the end of the day all unfinished admix was back dragged with the blade on the CAT D6 dozer to seal the admix. Sealing the admix prevent excessive moisture loss overnight.

CQA observed TWS utilizing the CAT D6 dozer to trim the admix on the north half of Cell 9 to grade. After the admix was cut to grade, CQA observed TWS use the CAT 563 smooth drum roller and the small double drum roller to proof roll the finished admix on the of Cell 9 to maintain a sealed, smooth finish.

CQA observed TWS utilizing the CAT 312 excavator to excavate the Cell 9 leachate riser trench aided by the TWS surveyor.

- 4.0 <u>Secondary Geocomposite</u> CQA observed ESI deploying geocomposite east to west on the floor of Cell 9. And north to south along the Cell 9 tie-in. CQA ensured that the geocomposite was joined with plastic zip ties as per the contract specifications. CQA observed the geotextile side overlaps were secured by sewing and the end overlaps were secured by leisters.
- 5.0 Primary Geomembrane CQA observed ESI deploying primary geomembrane panels P-14 to P-17 over accepted secondary geocomposite on the south slope and floor of Cell 9. The panels were deployed from the south anchor trench down the south embankment. A rub sheet was utilized to aid the geomembrane placement over the secondary geocomposite. A rub sheet was placed on the floor of Cell 9, and a track skid steer was used to pull the primary geomembrane over the primary geocomposite.

After the sheets were deployed, two fusion welders seamed the primary geomembrane together.

- 6.0 <u>Drainage Gravel</u> CQA observed TWS hauling 2,700 tons of Type A drainage gravel to site. The gravel was stockpiled to the southeast of Cell 10. Sample DG-A-03 collected from stockpile.
- 7.0 <u>Leachate Transmission Line</u> CQA witnessed BMWC welding the riser pipes for Cell 10. The pipe was stockpiled east of Cell 10.
- 8.0 Cell 10 Crest Pad TWS poured concrete for the Cell 10 crest pad duct bank. Intermountain Material Testing (IMT) was on-site to perform testing on the concrete.

ENVIROTECH-CQA

7/10/10





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-106 |
|----------------|---|---------------|----------------|---------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Friday, July 9, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Clear: Hi: 105°F Lo: 63°F |
| | *************************************** | | | Wind: 31-mph |

| FIELD NOTEBOOKS | | | | | |
|-----------------------|--------------|--------------------|----------------|--|--|
| Lucas Hay Book 2 | Pages: 42-43 | Joe Voss Book I | Pages: 132-133 | | |
| Tyler Williams Book 2 | Pages: 91-92 | James Schut Book 1 | Pages: 57-58 | | |

| | FIELD TESTING | | |
|---|---|------------------|------------------------------------|
| Submittal 5-18E Belt Scale Measurements | July 9, 2010 | 4,868 Tons | Passed |
| Submittal 5-18J Cell 10:Admix Testing | Lifts: 2, 3, 4, and 5 | SL-571 to SL-591 | Passed |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 4 – Cell 10 South Slope Grid P6 | SL-564 | Perm: On-going |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 5 – Cell 10 South Slope Grid N7 | SL-588 | Sample Collected Perm: On-going |

| CQA HOLD POINTS | | | | | | |
|------------------------------------|--------------|----------------------|--|--|--|--|
| Submittal 5-18R-043 Cell 9 Primary | July 9, 2010 | Panels: P-18 to P-21 | | | | |
| Subgrade | | | | | | |

| | LABORATORY TES | TING |
|------------------------------|----------------|------------------------------------|
| 5-18D Admix Soil Testing | AM-21 | USCS, Proctor, and Perm: On-going |
| 5-18D Admix Soil Testing | AM-22 | Sample Collected USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-01 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-02 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-03 | Perm and USCS: On-going |

GENERAL ACTIVITIES

1.0 Geocomposite Tie-in – ESI and TWS began working on the geocomposite tie-in on the Cell 9 floor as per conversations between WCH and TWS. However, CQA noted that the work did not meet the design drawings and without further direction from WCH, CQA could not certify that the tie-in matches the design drawings.

At the end of the day, Joseph Voss, CQA Engineer, met with Bill Melvin, WCH project lead, and Rodger Hoben with TWS on the geocomposite tie-in. The conversation between the parties indicated that the geocomposite needed to be overlapped with 2-ft of drainage gravel. While either 1-ft of drainage gravel or geocomposite needed to be maintained at all times, no set height of drainage gravel was required over the geocomposite. TWS indicated that the tie-in would be built according to specifications, and no SDDR would be required.

2.0 Geomembrane Deployment - CQA halted geomembrane installation at 12:25 after temperature reached well above 104 degrees Fahrenheit 12-in above the geomembrane.





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-106 |
|----------------|--------------------------------------|---------------|----------------|---|
| Job Number: | S013213A00 | Staff On-site | Date: | Friday, July 9, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Clear: Hi: 105°F Lo: 63°F Wind: 31-mph |

CONSTRUCTION ACTIVITIES

- 1.0 Subgrade CQA observed TWS proof rolling the subgrade of Cell 9 and Cell 10 with the CAT 563 smooth drum roller to keep a level and smooth surface for haul traffic. CQA also observed TWS moisture conditioning the admix subgrade prior to admix placement.
- 2.0 Admix Production TWS produced a total of 4,868 tons of admix material on Friday, July 9, 2010. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications.
- 3.0 Admix Placement CQA observed TWS using two CAT D6 GPS dozers to place admix on the south half of the Cell 10 floor and slope. CQA observed TWS using two (2) CAT 825 sheepsfoot compactors to compact the admix. CQA tested and verified that each lift placed was properly moisture conditioned, compacted and that the lift met the contract specifications. Please refer to Submittal 5-18J Admix Field Data for lift completion data for all grids.

At the end of the day all unfinished admix was back dragged with the blade on the CAT D6 dozer to seal the admix. Sealing the admix prevent excessive moisture loss overnight.

CQA observed TWS utilizing the CAT 312 excavator to excavate the Cell 9 leachate riser trench and admix sump aided by the TWS surveyor.

- 4.0 <u>Secondary Geocomposite</u> CQA observed ESI deploying geocomposite east to west on the floor of Cell 9. CQA ensured that the geocomposite was joined with plastic zip ties as per the contract specifications. CQA observed the geotextile side overlaps were secured by sewing and the end overlaps were secured by leisters.
 - CQA observed ESI and TWS working on the geocomposite tie-in on the Cell 9 floor as per conversations between WCH and TWS. The gravel was shoveled back to make a 1-ft vertical cut, the geocomposite was butted up against the rock, and the 16 oz geotextile was lystered together around the existing drainage gravel.
- 5.0 Primary Geomembrane CQA observed ESI deploying primary geomembrane panels P-18 to P-21 over accepted secondary geocomposite on the south slope and floor of Cell 9. The panels were deployed from the south anchor trench down the south embankment. A rub sheet was utilized to aid the geomembrane placement over the secondary geocomposite. A rub sheet was placed on the floor of Cell 9, and a track skid steer was used to pull the primary geomembrane over the secondary geocomposite.

After the sheets were deployed, two fusion welders seamed the primary geomembrane together.

6.0 <u>Drainage Gravel</u> - CQA observed TWS hauling 2,628 tons of Type A drainage gravel to site. The gravel was stockpiled to the southeast of Cell 10.

ENVIROTECH-COA DATE





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-107 |
|----------------|--|---------------|----------------|---------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Monday, July12, 2010 |
| Contractor(s): | TradeWind Services | 6 | Weather: | Clear: Hi: 83°F Lo: 59°F |
| 25-191 | Kina and and and and and and and and and a | | | Wind: 42-mph (High Winds) |

| FIELD NOTEBOOKS | | | | |
|-----------------------|--------------|--------------------|----------------|--|
| Lucas Hay Book 2 | Pages: 44-45 | Joe Voss Book 1 | Pages: 134-135 | |
| Tyler Williams Book 2 | Pages: 93-95 | James Schut Book 1 | Pages: 59-60 | |

| | FIELD TESTING | | |
|---|---|------------------|------------------------------------|
| Submittal 5-18Q Cell 10 Lysimeter | Cell 10 Lysimeter Backfill | LY10-01 | Passed |
| Submittal 5-18E Belt Scale Measurements | July 12, 2010 | 5,540 Tons | Passed |
| Submittal 5-18J Cell 9:Admix Testing | Lifts: 6 | SL-603 to SL-605 | Passed |
| Submittal 5-18J Cell 10:Admix Testing | Lifts: 4, 5, and 6 | SL-592 to SL-602 | Passed |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 4 – Cell 10 South Slope Grid P6 | SL-564 | Perm: On-going |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 5 – Cell 10 South Slope Grid N7 | SL-588 | Perm: On-going |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 4 – Cell 10 South Slope Grid N9 | SL-594 | Sample Collected Perm: On-going |

| | LABORATORY TES | TING |
|------------------------------|----------------|--|
| 5-18D Admix Soil Testing | AM-21 | USCS, Proctor, and Perm: On-going |
| 5-18D Admix Soil Testing | AM-22 | USCS: On-going |
| 5-18D Admix Soil Testing | AM-23 | Sample Collected USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-01 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-02 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-03 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-04 | Sample Collected Perm and USCS: On-going |

GENERAL ACTIVITIES

- 1.0 Geocomposite Tie-in A meeting on the geocomposite tie-in was held at 8:30 in the morning. At the end of the meeting, TWS said that the tie-in would be constructed as per design drawings as mentioned previously in Report 5-16-106.
- 2.0 Geosynthetic Placement Due to high winds and blowing sand, no geomembrane was deployed. Geosynthetics installation was halted early due to the blowing sand.





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-107 |
|----------------|--------------------------------------|---------------|----------------|---------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Monday, July12, 2010 |
| Contractor(s): | TradeWind Services | 6 | Weather: | Clear: Hi: 83°F Lo: 59°F |
| | | | | Wind: 42-mph (High Winds) |

CONSTRUCTION ACTIVITIES

- 1.0 Subgrade CQA observed TWS moisture conditioning the admix subgrade prior to admix placement.
 - CQA also observed TWS excavating the lysimeter trench in the subgrade of the Cell 10 north berm with the CAT 312 excavator.
- 2.0 Admix Production TWS produced a total of 5,540 tons of admix material on Monday, July 12, 2010. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications.
- 3.0 Admix Placement CQA observed TWS using two CAT D6 GPS dozers to place admix on the south half of the Cell 10 floor and slope. In addition, CQA observed TWS completing the 6th lift of admix on the north berm in Cell 9. CQA observed TWS using two (2) CAT 825 sheepsfoot compactors to compact the admix. CQA tested and verified that each lift placed was properly moisture condition, compacted and that the lift met the contract specifications. Please refer to Submittal 5-18J Admix Field Data for lift completion data for all grids.

At the end of the day all unfinished admix was back dragged with the blade on the CAT D6 dozer to seal the admix. Sealing the admix prevent excessive moisture loss overnight.

The CQA surveyor was on-site to verify admix thickness in the Cell 9 sump and riser trench. The CQA surveyor verified that the admix met lines and grades.

- 4.0 <u>Secondary Geomembrane</u> CQA observed ESI conducting non-destructive testing and repairs to panels S-44 to S-50 and the Cell 9 tie-in. The CQA surveyors were on-site to conduct the seam survey on the secondary geomembrane.
- 5.0 Secondary Geocomposite CQA observed ESI deploying geocomposite east to west on the floor of Cell 9. CQA ensured that the geocomposite was joined with plastic zip ties as per the contract specifications. CQA observed the geotextile side overlaps were secured by sewing and the end overlaps were secured by leisters.
 - CQA observed ESI and TWS working on the geocomposite tie-in on the Cell 9 floor as per conversations between WCH and TWS. The gravel was shoveled back to make a 1-ft vertical cut, the geocomposite was butted up against the rock, and the existing 16 oz geotextile was lystered together around the drainage gravel.
- 6.0 Primary Geomembrane CQA observed ESI conducting primary geomembrane nondestructive testing and repairs to primary panels P-14 to P-21. The CQA surveyors were on-site to conduct the seam survey on the secondary geomembrane.
- 7.0 <u>Drainage Gravel</u> CQA observed TWS hauling 2,880 tons of Type A drainage gravel to site. The gravel was stockpiled to the southeast of Cell 10.
- 8.0 Electrical Duct Bank CQA observed TWS pouring concrete over the electrical duct back from Crest Pad 10 to the Cell 10 electrical vault. Intermountain Testing (IMT) was on-site to perform CQ testing on the concrete placed.

EMVIROTECH - CQA DATE

M1 Page 164 of 376





| Project ID: | 01-0032 ERDF Cells 9-1 | 0 Construction | Report Number: | 5-16-108 |
|----------------|------------------------|----------------|----------------|--------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Tuesday, July13, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Clear: Hi: 80°F Lo: 53°F |
| | Anaparato | | | Wind: 27-mph |

| FIELD NOTEBOOKS | | | | | |
|-----------------------|--------------|--------------------|----------------|--|--|
| Lucas Hay Book 2 | Pages: 46-48 | Joe Voss Book 1 | Pages: 136-137 | | |
| Tyler Williams Book 2 | Pages: 96-99 | James Schut Book 1 | Pages: 61-63 | | |

| FIELD TESTING | | | | | |
|---|---|--------------------|------------------------------------|--|--|
| Submittal 5-18Q Cell 10 Lysimeter | Lifts: 2 - 4 | LY10-02 to LY10-04 | Passed | | |
| Submittal 5-18B Earthwork Field Data | Cell 10 Electrical Bank | EB-09 to EB-10 | Passed | | |
| Submittal 5-18E Belt Scale Measurements | July 13, 2010 | 5,694 Tons | Passed | | |
| Submittal 5-18J Cell 9:Admix Testing | Lifts: 6 | SL-609 to SL-611 | Passed | | |
| Submittal 5-18J Cell 10:Admix Testing | Lifts: 1, 2, 3, 4, and 5 | SL-606 to SL-634 | Passed | | |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 4 – Cell 10 South Slope Grid P6 | SL-564 | Perm: On-going | | |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 5 - Cell 10 South Slope Grid N7 | SL-588 | Perm: On-going | | |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 4 – Cell 10 South Slope Grid N9 | SL-594 | Perm: On-going | | |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 4 - Cell 9 North Slope Grid C5 | SL-611 | Sample Collected Perm: On-going | | |

| CQA HOLD POINTS | | | | | |
|--|---------------|----------------------------|--|--|--|
| Submittal 5-18R-044 Cell 10 Subgrade | July 13, 2010 | Grids: L7, L8, L9, and L10 | | | |
| Submittal 5-18R-045 Cell 9 Admix Surface | July 13, 2010 | Panels: S-51 to S-54 | | | |
| Submittal 5-18R-046 Cell 9 Primary | July 13, 2010 | Panels: P-22 to P-24 | | | |
| Subgrade | | | | | |

| LABORATORY TESTING | | | | |
|------------------------------|---------|--|--|--|
| 5-18D Admix Soil Testing | AM-21 | Perm: On-going | | |
| 5-18D Admix Soil Testing | AM-22 | USCS: On-going | | |
| 5-18D Admix Soil Testing | AM-23 | USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-01 | Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-02 | Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-03 | Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-04 | Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-05 | Sample Collected Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-06 | Sample Collected Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-07 | Sample Collected Perm and USCS: On-going | | |
| 5-18K Type B Drainage Gravel | DG-B-01 | Sample Collected Perm and USCS: On-going | | |





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-108 |
|----------------|--------------------------------------|---------------|----------------|--|
| Job Number: | S013213A00 | Staff On-site | Date: | Tuesday, July13, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Clear: Hi: 80°F Lo: 53°F Wind: 27-mph |

GENERAL ACTIVITIES

- 1.0 Weekly Progress Meetings CQA attended the construction contractor's weekly progress meeting on Tuesday, July 12, 2010 at 10:00 am. in the WCH conference room.
- 2.0 <u>CQA Progress Meeting</u> CQA attended the construction contractors CQA meeting on Tuesday, July 12, 2010 at 10:30 am. in the WCH conference room.
- 3.0 WCH Oversight CQA records were inspected by Mike Webb. Mike concentrated on the process of receiving geosynthetic materials.

CONSTRUCTION ACTIVITIES

- 1.0 <u>Subgrade</u> CQA observed TWS moisture conditioning the admix subgrade prior to admix placement. CQA also observed TWS moisture conditioning the admix subgrade prior to admix placement.
 - CQA observed TWS placing and backfilling the Cell 10 lysimeter pipe. The pipe was placed into the trench on the north slope and backfilled the CQA 312 excavator. CQA tested and verified that the trench met contract specifications.
- 2.0 Admix Production TWS produced a total of 5,694 tons of admix material on Tuesday, July 13, 2010. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications.
- 3.0 Admix Placement CQA observed TWS using two CAT D6 GPS dozers to place admix on the south half of the Cell 10 floor and slope. In addition, CQA observed TWS completing the 6th lift of admix on the north berm in Cell 9. CQA observed TWS using two (2) CAT 825 sheepsfoot compactors to compact the admix. CQA tested and verified that each lift placed was properly moisture condition, compacted and that the lift met the contract specifications. Please refer to Submittal 5-18J Admix Field Data for lift completion data for all grids.

At the end of the day all unfinished admix was back dragged with the blade on the CAT D6 dozer to seal the admix. Sealing the admix prevent excessive moisture loss overnight.

4.0 Anchor Trench - CQA observed TWS conducting repairs to the Cell 9 north anchor trench. TWS rounded the top edge and smooth the bottom surface as directed by CQA and ESI.

ENVIROTECH-CQA DATE





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-108 |
|----------------|--|---------------|----------------|--------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Tuesday, July13, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Clear: Hi: 80°F Lo: 53°F |
| | Well-delined to the second sec | | | Wind: 27-mph |

CONSTRUCTION ACTIVITIES

5.0 <u>Secondary Geomembrane</u> – CQA observed ESI deploying secondary geomembrane panels S-51 to S-54 over accepted admix subgrade on the north slope and floor of Cell 9. The panels were deployed from the north anchor trench down the south embankment. A rub sheet was utilized at the shoulder of the admix slope to minimize erosion.

After the sheets were deployed, two fusion welders seamed the secondary geomembrane together.

6.0 Primary Geomembrane - CQA observed ESI conducting primary geomembrane nondestructive testing and repairs to primary panels P-1 to P-21. In particular, a large wrinkle developed on the south slope, panels P5 thru P1. The wrinkle was cut and repaired as per specifications. After the repairs were completed, ESI conducted non-destructive testing as required.

CQA also observed ESI deploying primary geomembrane panels P-23 and P-24 on the floor of Cell 9, east to west. A rub sheet was utilized as a track skid steer pulled the liner across the cell. After the sheets were deployed, two fusion welders seamed the primary geomembrane together.

- 7.0 <u>Drainage Gravel</u> CQA observed TWS hauling 2,088 tons of Type A drainage gravel to site. The gravel was stockpiled to the southeast of Cell 10.
- 8.0 Electrical Duct Bank CQA observed TWS backfilling the electrical duct bank between Crest Pad 10 and the Cell 10 electrical vault. TWS placed and compacted two (2) lifts of material over the electrical lines with the CAT 312 excavator and a jumping jack hand compactor. CQA tested and verified that lifts 1 and 2 met construction 'specifications.

ENVIROTECH-CQA DATE

PAGE 3 OF 3





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-109 |
|----------------|--------------------------------------|---------------|----------------|---------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Wednesday, July14, 2010 |
| Contractor(s): | TradeWind Services | 3 | Weather: | Clear: Hi: 100°F Lo: 55°F |
| | | | | Wind: 27-mph |

| FIELD NOTEBOOKS | | | | | |
|-----------------------|----------------|-----------------|----------------|--|--|
| Lucas Hay Book 2 | Pages: 49-51 | Joe Voss Book 1 | Pages: 138-139 | | |
| Tyler Williams Book 2 | Pages: 100-103 | | | | |

| | FIELD TESTING | | |
|---|---|------------------|----------------|
| Submittal 5-18B Earthwork Field Data | Cell 10 Electrical Bank | EB-11 to EB-12 | Passed |
| Submittal 5-18E Belt Scale Measurements | July 14, 2010 | 5,414 Tons | Passed |
| Submittal 5-18J Cell 9:Admix Testing | Lifts: 6 | SL-641 to SL-642 | Passed |
| Submittal 5-18J Cell 10:Admix Testing | Lifts: 1, 2, 3, 4, and 5 | SL-635 to SL-650 | Passed |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 4 – Cell 10 South Slope Grid P6 | SL-564 | Perm: On-going |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 5 – Cell 10 South Slope Grid N7 | SL-588 | Perm: On-going |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 4 – Cell 10 South Slope Grid N9 | SL-594 | Perm: On-going |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 4 – Cell 9 North Slope Grid C5 | SL-611 | Perm: On-going |

| Ber 1000000000000000000000000000000000000 | | CQA HOLD POINTS | A STATE OF THE STA |
|---|--|-----------------|--|
| OH I I I I I | Submittal 5-18R-047 Cell 10 Subgrade | July 14, 2010 | Grids: J7 and K7 |
| • | Submittal 5-18R-048 Cell 9 Admix Surface | July 14, 2010 | Panels: S-55 to S-57 |

| | LABORATORY TES | TING |
|------------------------------|----------------|---------------------------------|
| 5-18D Admix Soil Testing | AM-21 | Perm: On-going |
| 5-18D Admix Soil Testing | AM-22 | USCS: On-going |
| 5-18D Admix Soil Testing | AM-23 | USCS: Completed |
| 5-18D Admix Soil Testing | AM-24 | Sample Collected USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-01 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-02 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-03 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-04 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-05 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-06 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-07 | Perm and USCS: On-going |
| 5-18K Type B Drainage Gravel | DG-B-01 | Perm and USCS: On-going |

| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-109 |
|----------------|--|---------------|----------------|---------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Wednesday, July14, 2010 |
| Contractor(s): | TradeWind Services | 3 | Weather: | Clear: Hi: 100°F Lo: 55°F |
| | ALL PROPERTY AND ADDRESS OF THE PROPERTY ADDRESS OF THE PROPERTY AND ADDRESS OF THE PROPERTY ADDRE | | | Wind: 27-mph |

GENERAL ACTIVITIES

- 1.0 DOE Audit CQA was audited by DOE auditor Harry Moomey. Harry audited the production to installation of the geosynthetic liner. He inspected all aspects of the process, from the plant visit to observing the field process of installation.
- 2.0 Stop Work At approximately 13:20, all work in the trench was stopped due to a release on July 13, 2010 in the active Cell 7 and 8. A meeting was held in the work trailer detailing the events. An unknown metallic/sulfuric gas was released from the active cells. WCH stopped work on July 13, 2010 for worker safety on the landfill site; however, construction was allowed to proceed. Due to the poor communication of the hazard and nature of the release, work in the trench was shutdown indefinitely. All exposed workers were allow to have blood and urine testing conducted.

CONSTRUCTION ACTIVITIES

- 1.0 <u>Subgrade</u> CQA observed TWS moisture conditioning the admix subgrade prior to admix placement. CQA also observed TWS moisture conditioning the admix subgrade prior to admix placement.
- 2.0 <u>Admix Production</u> TWS produced a total of 5,414 tons of admix material on Wednesday, July 14, 2010. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications.
- 3.0 Admix Placement CQA observed TWS using two CAT D6 GPS dozers to place admix on the south half of the Cell 10 floor and slope. In addition, CQÁ observed TWS completing the 6th lift of admix on the north berm in Cell 9. CQA observed TWS using two (2) CAT 825 sheepsfoot compactors to compact the admix. CQA tested and verified that each lift placed was properly moisture condition, compacted and that the lift met the contract specifications. Please refer to Submittal 5-18J Admix Field Data for lift completion data for all grids.
 - At the end of the day all unfinished admix was back dragged with the blade on the CAT D6 dozer to seal the admix. Sealing the admix prevent excessive moisture loss overnight.
- 4.0 Anchor Trench CQA observed TWS excavating the anchor trench from the Cell 9 Crest Pad Building to the east edge of Cell 9 with the CAT 312 excavator.
- 5.0 Secondary Geomembrane CQA observed ESI deploying secondary geomembrane panels S-55 to S-57 over accepted admix subgrade on the north slope and floor of Cell 9. The panels were deployed from the north anchor trench down the south embankment. A rub sheet was utilized at the shoulder of the admix slope to minimize erosion. Panels S-56 and S-57, located in the Cell 9 riser trench, are situated so that the seam is near the center of the riser trench.

After the sheets were deployed, two fusion welders seamed the secondary geomembrane together.





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-109 |
|----------------|-------------------------|---------------|----------------|---------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Wednesday, July14, 2010 |
| Contractor(s): | TradeWind Services | 3 | Weather: | Clear: Hi: 100°F Lo: 55°F |
| | | | | Wind: 27-mph |

CONSTRUCTION ACTIVITIES

- 6.0 Primary Geomembrane CQA observed ESI deploying one (1) panel of primary geomembrane east to west across Cell 9 along the south edge of the primary geomembrane. However, work was stopped prior to welding. The liner was not sufficiently weighted down prior to exiting the trench.
- 7.0 Drainage Gravel TWS began hauling Type B drainage gravel to site. The material was stockpiled east of Cell 10.
- 8.0 Electrical Duct Bank CQA observed TWS backfilling the electrical duct bank between Crest Pad 10 and the Cell 10 electrical vault. TWS placed and compacted two (2) lifts of material over the electrical lines with the CAT 312 excavator and a jumping jack hand compactor. CQA tested and verified that lifts 3 and 4 met construction specifications.

ENVIROTECH-COA DATE

PAGE 3 OF 3





| Project ID: | 01-0032 ERDF Cells 9-10 | O Construction | Report Number: | 5-16-110 |
|----------------|---|----------------|----------------|--------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Thursday, July15, 2010 |
| Contractor(s): | TradeWind Services | 3 | Weather: | Clear: Hi: 99°F Lo: 55°F |
| | *************************************** | | | Wind: 27-mph |

| | FIEL | D NOTEBOOKS | |
|---------------------|--------------|-----------------|----------------|
| Lucas Hay Book 2 | Pages: 52-53 | Joe Voss Book I | Pages: 140-141 |
| Ryan Swenson Book 1 | Page: 1 | | |

| FIELD TESTING | | | | | |
|---|---|--------------|----------------|--|--|
| Submittal 5-18B Earthwork Field Data | Northeast Haul Ramp | R-01 to R-02 | Passed | | |
| Submittal 5-18E Belt Scale Measurements | July 15, 2010 | 4,877 Tons | Passed | | |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 4 – Cell 10 South Slope Grid P6 | SL-564 | Perm: Passed | | |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 5 – Cell 10 South Slope Grid N7 | SL-588 | Perm: On-going | | |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 4 – Cell 10 South Slope Grid N9 | SL-594 | Perm: On-going | | |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 4 – Cell 9 North Slope Grid C5 | SL-611 | Perm: On-going | | |

| LABORATORY TESTING | | | | | |
|------------------------------|---------|-------------------------------|--|--|--|
| 5-18D Admix Soil Testing | AM-21 | Perm: Passed | | | |
| 5-18D Admix Soil Testing | AM-22 | USCS: On-going | | | |
| 5-18D Admix Soil Testing | AM-24 | USCS: On-going | | | |
| 5-18D Admix Soil Testing | AM-25 | USCS, Proctor, Perm: On-going | | | |
| 5-18K Type A Drainage Gravel | DG-A-01 | Perm and USCS: On-going | | | |
| 5-18K Type A Drainage Gravel | DG-A-02 | Perm and USCS: On-going | | | |
| 5-18K Type A Drainage Gravel | DG-A-03 | Perm and USCS: On-going | | | |
| 5-18K Type A Drainage Gravel | DG-A-04 | Perm and USCS: On-going | | | |
| 5-18K Type A Drainage Gravel | DG-A-05 | Perm and USCS: On-going | | | |
| 5-18K Type A Drainage Gravel | DG-A-06 | Perm and USCS: On-going | | | |
| 5-18K Type A Drainage Gravel | DG-A-07 | Perm and USCS: On-going | | | |
| 5-18K Type B Drainage Gravel | DG-B-01 | Perm and USCS: On-going | | | |
| 5-18K Type B Drainage Gravel | DG-B-02 | Perm and USCS: On-going | | | |

| GENERAL ACTIVITIES | | |
|---|--|--|
| 1.0 Stop Work - The stop work called yesterday, Report 5-16-109, continues for trench operations. | | |
| | | |
| | | |
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| | | |
| | | |





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-110 |
|----------------|--------------------------------------|---------------|----------------|--|
| Job Number: | S013213A00 | Staff On-site | Date: | Thursday, July15, 2010 |
| Contractor(s): | TradeWind Services | 3 | Weather: | Clear: Hi: 99°F Lo: 55°F Wind: 27-mph |

CONSTRUCTION ACTIVITIES

- 1.0 Admix Production TWS produced a total of 4,877 tons of admix material on Thursday, July 15, 2010. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications.
- 2.0 Northeast Ramp CQA observed TWS constructing the operations access ramp on the northeast side of Cell 9. CQA witnessed TWS utilizing a CAT D6 dozer to place the material on the subgrade and a CAT smooth drum roller to compact the fill material. CQA verified that the subgrade and fill material met compaction specifications.
- 3.0 <u>Leachate Transmission Pipe</u> CQA observed TWS pressure testing the double containment pipe between MH-21 and MH-22. CQA verified that the inner pipe held 37 psi for one hour. CQA also verified that the outer pipe held 11 psi and no leaks were observed at the pipe joints.

In addition, CQA observed TWS excavating the leachate transmission drain pipe trenches. TWS utilized the CAT 312 excavator aided by the CQC surveyor to excavate the trenches from MH-32 and MH-33 out the north embankment,

M1 Page 172 of 376

ALEL 7/26/10
ENYIROTECH-CQA DATE





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-111 |
|----------------|--------------------------------------|---------------|----------------|--|
| Job Number: | S013213A00 | Staff On-site | Date: | Friday, July16, 2010 |
| Contractor(s): | TradeWind Services | 3 | Weather: | Clear: Hi: 97°F Lo: 64°F Wind: 30-mph |

| FIELD NOTEBOOKS | | | | |
|---------------------|--------------|-----------------|---------------|--|
| Lucas Hay Book 2 | Pages: 54-56 | Joe Voss Book I | Pages:142-143 | |
| Ryan Swenson Book 1 | Page: 2 | | | |

| FIELD TESTING | | | | | |
|---|---|------------------|----------------|--|--|
| Submittal 5-18B Earthwork Field Data | Northeast Haul Ramp | R-03 to R-04 | Passed | | |
| Submittal 5-18B Leachate Transmission | Lift: 5-8 | LT-113 to LT-116 | Passed | | |
| Submittal 5-18E Belt Scale Measurements | July 16, 2010 | 4,568 Tons | Passed | | |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 5 – Cell 10 South Slope Grid N7 | SL-588 | Perm: On-going | | |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 4 – Cell 10 South Slope Grid N9 | SL-594 | Perm: On-going | | |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 4 – Cell 9 North Slope Grid C5 | SL-611 | Perm: On-going | | |

| LABORATORY TESTING | | | | |
|------------------------------|---------|-------------------------------|--|--|
| 5-18D Admix Soil Testing | AM-22 | USCS: On-going | | |
| 5-18D Admix Soil Testing | AM-24 | USCS: On-going | | |
| 5-18D Admix Soil Testing | AM-25 | USCS, Proctor, Perm: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-01 | Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-02 | Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-03 | Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-04 | Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-05 | Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-06 | Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-07 | Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-08 | Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-09 | Perm and USCS: On-going | | |
| 5-18K Type B Drainage Gravel | DG-B-01 | Perm and USCS: On-going | | |
| 5-18K Type B Drainage Gravel | DG-B-02 | Perm and USCS: On-going | | |
| 5-18K Type B Drainage Gravel | DG-B-03 | Perm and USCS: On-going | | |
| 5-18A Structural Fill | SF-09 | Proctor and USCS: On-going | | |
| 5-18A Structural Fill | SF-10 | Proctor and USCS: On-going | | |

| GENERAL ACTIVITIES | |
|---|--|
| .0 Stop Work - The stop work has continued for trench operations. | |
| | |
| | |





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-111 |
|----------------|--------------------------------------|---------------|----------------|---|
| Job Number: | S013213A00 | Staff On-site | Date: | Friday, July16, 2010 |
| Contractor(s): | TradeWind Services | 3 | Weather: | Clear : Hi: 97°F Lo: 64°F Wind: 30-mph |

CONSTRUCTION ACTIVITIES

- 1.0 Admix Production TWS produced a total of 4,568 tons of admix material on Friday, July 16, 2010. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications.
- 2.0 Northeast Ramp CQA observed TWS constructing the operations access ramp on the northeast side of Cell 9. CQA witnessed TWS utilizing a CAT D6 dozer to place the material on the subgrade and a CAT smooth drum roller to compact the fill material. CQA verified that the subgrade and till material met compaction specifications.
- 3.0 <u>Leachate Transmission Pipe</u> CQA observed TWS placing four (4) lifts of backfill around MH-21. TWS placed lifts five(5) through lift eight(8). Each lift was moisture conditioned and compacted with the jumping jack hand compactors. CQA tested and verified that each lift placed met the contract specifications.

In addition, CQA observed TWS using the CAT 330 excavator to excavate between MH-34 and MH-35 in preparation for placing the 10x16-in double contained HDPE transmission line.

ENVIROTECH-CQA

7/26/10

M1 Page 174 of 376





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-112 |
|----------------|--|---------------|---|--------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Monday, July19, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Clear: Hi: 93°F Lo: 57°F |
| | and the state of t | | opposition of the contract of | Wind: 21-mph |

| Lucas Hay Book 2 | Pages: 57-59 | Tyler Williams Book 2 | Pages: 104-106 |
|--------------------|--------------|-----------------------|----------------|
| James Schut Book 1 | Page: 66-67 | Ryan Swenson Book 1 | Pages: 3-4 |

| | FIELD TESTING | | |
|---|---|------------------|----------------|
| Submittal 5-18B Earthwork Field Data | Northeast Haul Ramp | R-05 | Passed |
| Submittal 5-18B Leachate Transmission | MH-32: Lifts: 1 - 4 | LT-117 to LT-120 | Passed |
| Submittal 5-18B Leachate Transmission | MH-33: Lifts: 1 - 6 | LT-121 to LT-125 | Passed |
| Submittal 5-18E Belt Scale Measurements | July 19, 2010 | 5,647 Tons | Passed |
| Submittal 5-18J Cell 10:Admix Testing | Lifts: I and 5 | SL-651 to SL-657 | Passed |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 5 – Cell 10 South Slope Grid N7 | SL-588 | Perm: On-going |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 4 – Cell 10 South Slope Grid N9 | SL-594 | Perm: On-going |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 4 – Cell 9 North Slope Grid C5 | SL-611 | Perm: On-going |

| CQA HOLD POINTS | | | | |
|--|---------------|------------------------|--|--|
| Submittal 5-18R-049 Cell 9 Primary Subgrade | July 19, 2010 | Panels: P-25 to P-27 | | |
| Submittal 5-18R-050 Cell 10 Subgrade | July 19, 2010 | Grids: K8, K9, and K10 | | |

| | LABORATORY TEST | FING |
|-----------------------------------|--|----------------------------|
| 5-18D Admix Soil Testing | AM-22 | USCS: Complete |
| 5-18D Admix Soil Testing | AM-24 | USCS: Complete . |
| 5-18D Admix Soil Testing | AM-25 | USCS: Complete |
| | and the second s | Proctor, Perm: On-going |
| 5-18K Type A Drainage Gravel | DG-A-01 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-02 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-03 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-04 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-05 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-06 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-07 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-08 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-09 | Perm and USCS: On-going |
| 5-18K Type B Drainage Gravel | DG-B-01 | Perm and USCS: On-going |
| 5-18K Type B Drainage Gravel | DG-B-02 | Perm and USCS: On-going |
| 5-18K Type B Drainage Gravel | DG-B-03 | Perm and USCS: On-going |
| 5-18A Structural Fill Base Course | SF-09 | Proctor and USCS: On-going |
| 5-18A Structural Fill Top Course | SF-10 | Proctor and USCS: On-going |





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-112 |
|----------------|--|---------------|----------------|--------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Monday, July19, 2010 |
| Contractor(s): | TradeWind Services | 3 | Weather: | Clear: Hi: 93°F Lo: 57°F |
| | and the second s | | | Wind: 21-mph |

GENERAL ACTIVITIES

1.0 Stop Work - At 10:30 WCH held a meeting to discuss the incident that triggered the stop work that occurred last Wednesday, July 14, 2010 (Report 5-16-109) in the active Cells 7 and 8. The stop work continued for trench operations. WCH announced the events that transpired prior to and immediately after the incident and discussed the new procedures in place to protect individuals working in Cells 9 and 10. The new procedures state that if there is ever a Stop Work in the active cells for similar incidents, that the same Stop Work will be initiated in Cells 9 and 10.

The Stop Work was withdrawn and work in Cells 9 and 10 trench resumed at approximately 12:45.

2.0 Survey – TWS requested that the drain lines from MH-32 to MH-33 to be surveyed in order to release backfill operations. WCH requested TWS surveyors locate the pipe and reschedule the survey for a later date.

CONSTRUCTION ACTIVITIES

- 1.0 Subgrade CQA observed TWS moisture conditioning the admix subgrade prior to admix placement.
- 2.0 Admix Production TWS produced a total of 5,647 tons of admix material on Monday, July 19, 2010. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications.
- 3.0 Admix Placement TWS spent most of the day re-working and moisture conditioning the admix liner that had dried out since the stop work order was initiated. TWS reconditioned the admix on the south half of Cell 10. In addition, TWS placed admix material on approved subgrade on the south floor of Cell 10. CQA observed TWS using two CAT D6 GPS dozers to place the admix. CQA observed TWS using two (2) CAT 825 sheepsfoot compactors to compact the admix. CQA tested and verified that each lift placed was properly moisture condition, compacted and that the lift met the contract specifications. Please refer to Submittal 5-18J Admix Field Data for lift completion data for all grids.
 - During the day, TWS moisture conditioned and maintained the finished admix surface. At the end of the day all unfinished admix was back dragged with the blade on the CAT D6 dozer to seal the admix.
- 4.0 Secondary Geomembrane CQA observed ESI straightening secondary liner panel S-57 that became folded over due to lack of sandbags during the shutdown period. After the liner was straightened, CQA observed ESI fusion welding the panel S-57 to panel S-56.
- 5.0 Secondary Geocomposite CQA observed ESI deploying two (2) geocomposite panels east to west on the floor of Cell 9. CQA ensured that the geocomposite was joined with plastic zip ties as per the contract specifications. CQA observed the geotextile side overlaps were secured by sewing and the end overlaps were secured by leisters.





| Project ID: | 01-0032 ERDF Cells 9-10 |) Construction | Report Number: | 05-016-112 |
|----------------|-------------------------|----------------|----------------|--------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Monday, July19, 2010 |
| Contractor(s): | TradeWind Services | 3 | Weather: | Clear: Hi: 93°F Lo: 57°F |
| | | | | Wind: 21-mph |

CONSTRUCTION ACTIVITIES

6.0 Primary Geomembrane – CQA observed ESI deploying two (2) additional panels of primary geomembrane, P-26 and P-27, next to the previously deployed panel P-25 along the south edge of the primary geomembrane on the floor of Cell 9.

After the panels were deployed, CQA observed TWS utilizing two (2) fusion welders to weld the primary seams.

- 7.0 Drainage Gravel TWS began hauling Type B drainage gravel to site. The material was stockpiled east of Cell 10.
- 8.0 <u>Leachate Transmission Pipe</u> CQA observed BMWC pressure testing the 4-in. drain line from MH-32 to the north edge of the north berm. CQA verified that the pressure test met project specifications. BMWC also pressure testing the 4-in. drain line from MH-33. The initial test failed to meet specifications. BMWS shall retest at a later time.

After the testing was completed on the 4-in. drain lines, TWS surveyed both drain lines under CQA supervision. TWS points shall be used for the CQA as-built survey as directed by WCH. CQA then observed TWS placing six (6) lifts of backfill over MH-32 drain line. TWS moisture conditioned and compacted the backfill with a jumping jack hand compactor. CQA tested and verified that the backfill met construction specifications.

9.0 <u>Electrical Trench</u> – CQA observed TWS backfilling the electrical duct trench between MH-33 and the Cell 10 electrical vault. TWS placed and compacted three lifts of backfill with the jumping jack hand compactor. CQA tested and verified that the backfill met construction specifications.

ENVIROTECH-CQA

8/2/10 DATE

ATE M1 Page 177 of 376 PAGE 3 OF 3





| Project ID: | 01-0032 ERDF Cells 9-10 |) Construction | Report Number: | 5-16-113 |
|----------------|--|----------------|--|--------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Tuesday, July20, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Clear: Hi: 95°F Lo: 60°F |
| | and the second s | | and the same of th | Wind: 18-mph |

| | FIEL | D NOTEBOOKS | |
|--------------------|--------------|-----------------------|----------------|
| Lucas Hay Book 2 | Pages: 60-62 | Tyler Williams Book 2 | Pages: 107-108 |
| James Schut Book 1 | Page: 68-70 | Ryan Swenson Book 1 | Pages: 5-6 |

| | FIELD TESTING | | |
|---|--|------------------|------------------------------------|
| Submittal 5-18E Belt Scale Measurements | July 20, 2010 | 5,494 Tons | Passed |
| Submittal 5-18J Cell 10:Admix Testing | Lifts: 2, 3, 4, 5, and 6 | SL-658 to SL-685 | Passed |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 5 – Cell 10 South Slope Grid N7 | SL-588 | Perm: Completed |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 4 - Cell 10 South Slope Grid N9 | SL-594 | Perm: Completed |
| Submittal 5-18J Admix Field Testing Permeability | Litt No. 4 – Cell 9 North Slope Grid C5 | SL-611 | Perm: Completed |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 6 - Cell 9 South Floor Grid L6 | SL-658 | Sample Collected Perm: On-going |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 6 - Cell 10 South Slope Grid P10 | SL-681 | Sample Collected Perm: On-going |

| | CQA HOLD POINT | rs | |
|--|----------------|-----------|-------------|
| Submittal 5-18R-051 Cell 9 Primary Subgrade | July 20, 2010 | Panels: P | -28 to P-33 |

| LABORATORY TESTING | | | | |
|-----------------------------------|---------|------------------------------------|--|--|
| 5-18D Admix Soil Testing | AM-25 | Proctor, Perm: On-going | | |
| 5-18D Admix Soil Testing | AM-26 | Sample Collected USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-01 | Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-02 | Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-03 | Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-04 | Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-05 | Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-06 | Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-07 | Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-08 | Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-09 | Perm and USCS: On-going | | |
| 5-18K Type B Drainage Gravel | DG-B-01 | Perm and USCS: On-going | | |
| 5-18K Type B Drainage Gravel | DG-B-02 | Perm and USCS: On-going | | |
| 5-18K Type B Drainage Gravel | DG-B-03 | Perm and USCS: On-going | | |
| 5-18A Structural Fill Base Course | SF-09 | Proctor and USCS: On-going | | |
| 5-18A Structural Fill Top Course | SF-10 | Proctor and USCS: On-going | | |





| Project ID: | 01-0032 ERDF Cells 9-10 |) Construction | Report Number: | 5-16-113 |
|----------------|-------------------------|----------------|----------------|--------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Tuesday, July20, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Clear: Hi: 95°F Lo: 60°F |
| | | | an contraction | Wind: 18-mph |

GENERAL ACTIVITIES

- 1.0 Weekly Progress Meetings CQA attended the construction contractor's weekly progress meeting on Tuesday, July 20, 2010 at 10:00 am, in the WCH conference room.
- 2.0 CQA Progress Meeting CQA attended the construction contractors CQA meeting on Tuesday, July 20, 2010 at 10:30 am. in the WCH conference room.

CONSTRUCTION ACTIVITIES

- 1.0 Admix Production TWS produced a total of 5,494 tons of admix material on Tuesday, July 20, 2010. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications.
- 2.0 Admix Placement CQA observed TWS using two CAT D6 GPS dozers to place admix on the south half of the Cell 10 floor and slope. CQA observed TWS using two (2) CAT 825 sheepsfoot compactors to compact the admix. CQA tested and verified that each lift placed was properly moisture condition, compacted and that the lift met the contract specifications. Please refer to Submittal 5-18J Admix Field Data for lift completion data for all grids.
 - During the day, TWS moisture conditioned and maintained the finished admix surface. At the end of the day all unfinished admix was back dragged with the blade on the CAT D6 dozer to seal the admix. Sealing the admix prevent excessive moisture loss overnight.
- 3.0 <u>Secondary Geomembrane</u> CQA observed ESI collecting destructive samples and conducting repairs on secondary panels S-55 to S-57 on the north berm and sump of Cell 9.
- 4.0 Secondary Geocomposite CQA observed ESI deploying five (5) geocomposite panels east to west on the floor of Cell
 9. CQA ensured that the geocomposite was joined with plastic zip ties as per the contract specifications. CQA observed the geotextile side overlaps were secured by sewing and the end overlaps were secured by leisters.
- 5.0 Primary Geomembrane CQA observed ESI deploying two (2) additional panels of primary geomembrane, P-28 and P-33, next to the previously deployed panel P-25 along the south edge of the primary geomembrane on the floor of Cell 9.
 - After the panels were deployed, CQA observed TWS utilizing two (2) fusion welders to weld the primary seams.
- 6.0 Drainage Gravel TWS began hauling Type B drainage gravel to site. The material was stockpiled east of Cell 10.
- 7.0 <u>Leachate Transmission Pipe</u> CQA observed BMWC pressure testing the 4-in. drain line from MH-33 to the north edge of the north berm. CQA verified that the pressure test met project specifications.

ENVIROTECH-CQA

8/2/10 DATE

M1 Page 179 of 376





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-114 |
|----------------|-------------------------|---------------|----------------|--------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Wednesday, July21, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Clear: Hi: 97°F Lo: 66°F |
| | | | | Wind: 27-mph |

| FIELD NOTEBOOKS | | | | |
|--------------------|--------------|-----------------------|----------------|--|
| Lucas Hay Book 2 | Pages: 63-66 | Tyler Williams Book 2 | Pages: 109-110 | |
| James Schut Book 1 | Page: 71-73 | Ryan Swenson Book 1 | Page: 7 | |

| | FIELD TESTING | | |
|---|--|------------------|------------------------------------|
| Submittal 5-18B Earthwork Field Data | MH-33 Drain Line | LT-126 to LT-130 | Passed |
| Submittal 5-18E Belt Scale Measurements | July 21, 2010 | 5,481 Tons | Passed |
| Submittal 5-18J Cell 10:Admix Testing | Lifts: 2, 3, 4, 5, and 6 | SL-676 to SL-709 | Passed |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 6 – Cell 9 South Floor Grid L6 | SL-658 | Perm: On-going |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 6 – Cell 10 South Slope Grid P10 | SL-681 | Perm: On-going |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 6 – Cell 10 South Floor Grid K9 | SL-691 | Sample Collected Perm: On-going |

| CQA HOLD POINTS | | | | |
|--------------------------------------|---------------|-------------------------------|--|--|
| Submittal 5-18R-052 Cell 10 Subgrade | July 21, 2010 | Grids: 17, J8, J9, J10 and D6 | | |

| | LABORATORY TES | TING |
|-----------------------------------|----------------|----------------------------|
| 5-18D Admix Soil Testing | AM-25 | Proctor, Perm: On-going |
| 5-18D Admix Soil Testing | AM-26 | USCS Testing: Completed |
| 5-18K Type A Drainage Gravel | DG-A-01 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-02 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-03 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-04 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-05 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-06 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-07 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-08 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-09 | Perm and USCS: On-going |
| 5-18K Type B Drainage Gravel | DG-B-01 | Perm and USCS: On-going |
| 5-18K Type B Drainage Gravel | DG-B-02 | Perm and USCS: On-going |
| 5-18K Type B Drainage Gravel | DG-B-03 | Perm and USCS: On-going |
| 5-18A Structural Fill Base Course | SF-09 | Proctor and USCS: On-going |
| 5-18A Structural Fill Top Course | SF-10 | Proctor and USCS: On-going |





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-114 |
|----------------|--|---------------|--|--------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Wednesday, July21, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Clear: Hi: 97°F Lo: 66°F |
| | BBUTTO AND | | THE PARTY OF THE P | Wind: 27-mph |

CONSTRUCTION ACTIVITIES

- 1.0 Subgrade COA observed TWS moisture conditioning the admix subgrade prior to admix placement. COA also observed TWS excavating the Cell 10 lysimeter sump with the CAT 330 excavator aided by the TWS surveyor.
- 2.0 Admix Production TWS produced a total of 5.481 tons of admix material on Wednesday, July 21, 2010. COA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications.
- 3.0 Admix Placement CQA observed TWS using two CAT D6 GPS dozers to place admix on the south half of the Cell 10 floor and slope. In addition, TWS began admix placement in the northwest corner of the Cell 10 floor. CQA observed TWS using two (2) CAT 825 sheeps foot compactors to compact the admix. CQA tested and verified that each lift placed was properly moisture conditioned, compacted and that the lift met the contract specifications. Please refer to Submittal 5-18J Admix Field Data for lift completion data for all grids.
 - During the day, TWS moisture conditioned and maintained the finished admix surface. At the end of the day all unfinished admix was back dragged with the blade on the CAT D6 dozer to seal the admix.
- 4.0 Secondary Geomembrane CQA observed ESI completing repairs to the secondary panels S-55 to S-57 prior to placement of the secondary riser pipes. In addition, CQA observed ESI air pressure testing and conducting repairs on the remainder of the secondary geomembrane on the north berm and floor of Cell 9.
- 5.0 Secondary Geocomposite CQA observed ESI deploying a total of ten (10) geocomposite panels. Six (6) geocomposite panels were placed in the Cell 9 riser trench and sump. The remainder of the rolls were placed on the Cell 9 floor, COA ensured that the geocomposite was joined with plastic zip ties as per the contract specifications. COA observed the geotextile side overlaps were secured by sewing and the end overlaps were secured by leisters.
- 6.0 Secondary Leachate Collection System CQA observed TWS placing the two (2) 12-in. riser pipes into Cell 9. The pipes were placed through the openings in the Cell 9 Crest Pad Building and walked into place with the CAT 330 excavator.
- 7.0 Drainage Gravel TWS has completed production of Type B gravel. TWS shifted back to producing Type A gravel. The material was stockpiled southeast of Cell 10.
- 8.0 Leachate Transmission Pipe COA observed TWS backfilling and compacting five (5) lifts of soil over the MH-33 discharge pipe. TWS compacted the soil with a jumping jack hand compactor, and CQA tested and verified that the fill met project specifications.





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-115 |
|----------------|-------------------------|---------------|----------------|--|
| Job Number: | S013213A00 | Staff On-site | Date: | Thursday, July22, 2010 |
| Contractor(s): | TradeWind Services | 6 | Weather: | Partly Cloudy: Hi: 92°F Lo: 65°F Wind: 42-mph |

| Lucas Hay Book 2 | Page: 67 | Tyler Williams Book 2 | Pages: 111-114 |
|--------------------|-------------|-----------------------|----------------|
| James Schut Book 1 | Page: 74-77 | Ryan Swenson Book I | Page: 8 |

| | FIELD TESTING | | |
|---|--|------------------|------------------------------------|
| Submittal 5-18E Belt Scale Measurements | July 22, 2010 | 3,811 Tons | Passed |
| Submittal 5-18J Cell 10:Admix Testing | Lifts: 1, 3, 4, and 5 | SL-710 to SL-726 | Passed |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 6 - Cell 9 South Floor Grid L6 | SL-658 | Perm: On-going |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 6 - Cell 10 South Slope Grid P10 | SL-681 | Perm: On-going |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 6 - Cell 10 South Floor Grid K9 | SL-691 | Perm: On-going |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 6 - Cell 10 South Floor Grid 17 | SL-713 | Sample Collected Perm: On-going |

| | CQA HOLD POINTS | 000000000000000000000000000000000000000 | |
|--------------------------------------|-----------------|---|----------------|
| Submittal 5-18R-053 Cell 10 Subgrade | July 22, 2010 | Grids: 18, | 19, 110 and D7 |

| | LABORATORY TEST | ING |
|---|-----------------|---|
| 5-18D Admix Soil Testing | AM-25 | Proctor: Removed Perm: On-going |
| 5-18D Admix Soil Testing | AM-26 | USCS Testing: Completed |
| 5-18K Type A Drainage Gravel | DG-A-01 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-02 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-03 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-04 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-05 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-06 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-07 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-08 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-09 | Perm and USCS: On-going |
| 5-18K Type B Drainage Gravel | DG-B-01 | Perm and USCS: On-going |
| 5-18K Type B Drainage Gravel | DG-B-02 | Perm and USCS: On-going |
| 5-18K Type B Drainage Gravel | DG-B-03 | Perm and USCS: On-going |
| 5-18A Structural Fill Base Course | SF-09 | Proctor and USCS: On-going |
| 5-18A Structural Fill Top Course | SF-10 | Proctor and USCS: On-going |
| 5-18A Structural Fill Riser Pipe Backfill | SF-11 | Sample Collected Proctor and USCS: On-going |





| Project ID: | 01-0032 ERDF Cells 9-10 |) Construction | Report Number: | 5-16-115 |
|----------------|-------------------------|----------------|----------------|----------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Thursday, July22, 2010 |
| Contractor(s): | TradeWind Services | 6 | Weather: | Partly Cloudy: Hi: 92°F Lo: 65°F |
| | | | | Wind: 42-mph |

GENERAL ACTIVITIES

- 1.0 Admix Proctor AM-25 Admix proctor AM-25 was tested to ASTM 1556, modified proctor, instead of ASTM 698, standard proctor. As a result, CQA is collecting an additional sample to be tested by ASTM 698 to meet the required testing frequency in the CQA Plan. Sample AM-25 is being removed as a proctor sample.
- 2.0 Weather In the afternoon, high winds and windborne dust halted geomembrane deployment.
- 3.0 <u>Housekeeping</u> The geosynthetic work area has become cluttered. Coupled with the high winds, the litter becomes both a quality issue and a safety issue. CQA has contacted WCH, TWS, and ESI with housekeeping concerns.

CONSTRUCTION ACTIVITIES

- 1.0 <u>Subgrade</u> CQA observed TWS moisture conditioning the admix subgrade prior to admix placement. CQA survey was on-site to survey the Cell 10 lysimeter sump and remaining subgrade points in Cell 10.
- 2.0 Admix Production TWS produced a total of 3,811 tons of admix material on Thursday, July 22, 2010. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications.
- 3.0 Admix Placement CQA observed TWS using two CAT D6 GPS dozers to place admix on the south half of the Cell 10 floor and slope. In addition, TWS began admix placement in the northwest corner of the Cell 10 floor. CQA observed TWS using two (2) CAT 825 sheepsfoot compactors to compact the admix. CQA tested and verified that each lift placed was properly moisture conditioned, compacted and that the lift met the contract specifications. Please refer to Submittal 5-18J Admix Field Data for lift completion data for all grids.

During the day, TWS moisture conditioned and maintained the finished admix surface. At the end of the day all unfinished admix was back dragged with the blade on the CAT D6 dozer to seal the admix.

CQA survey was on-site to capture admix thickness. During the survey, the CQA survey noted three (3) points were covered with admix soil prior to survey. CQA confirmed through photographic evidence that the subgrade was consistent with contract requirements for surface preparation and the grade was maintained between survey points. CQA with the aid of TWS excavated the admix until the subgrade was exposed. Stratton surveyed the points and CQA verified that points met grade requirements..





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-115 |
|----------------|--------------------------------------|---------------|--|----------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Thursday, July22, 2010 |
| Contractor(s): | TradeWind Services | 6 | Weather: | Partly Cloudy: Hi: 92°F Lo: 65°F |
| | unidadada | | A STATE OF THE STA | Wind: 42-mph |

CONSTRUCTION ACTIVITIES

4.0 <u>Secondary Geomembrane</u> – CQA observed ESI completing the fusion weld between the Cell 9 tie-in and panel S-22 on the north berm and floor of Cell 10.

CQA observed ESI completing repairs to the secondary panels on the north berm. In addition, CQA observed ESI air pressure testing, conducting repairs, and vacuum testing on the remainder of the secondary geomembrane on the north berm and floor of Cell 9.

CQA survey was on-site to conduct the secondary geomembrane seam survey.

- 5.0 Secondary Geocomposite CQA observed ESI and TWS construct the geocomposite to secondary rock tie-in. Initially, the tie-in was constructed with too little drainage gravel overlap as indicted by the CQA geosynthetic's lead. CQA observed TWS shoveling gravel from the primary layer back over the secondary geocomposite in Cell 9. After sufficient drainage gravel overlap had been obtained, the drainage gravel was encapsulated in geotextile.
- 6.0 Primary Geomembrane CQA observed TWS air pressure testing, conducting repairs, and vacuum testing the repairs on the primary geomembrane deployed on the Cell 9 floor.

In addition, Stratton Survey was on-site to conduct the primary geomembrane seam survey.

7.0 <u>Drainage Gravel</u> – CQA observed TWS hauling 2,448 tons of Type A drainage gravel to site. The gravel was stockpiled to the southeast of Cell 10.

ENVIROTECH - CQA

B/s/ra DATE

PAGE 3 OF 3





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-116 |
|----------------|-------------------------|---------------|----------------|--|
| Job Number: | S013213A00 | Staff On-site | Date: | Friday, July23, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Partly Cloudy: Hi: 90°F Lo: 59°F Wind: 21-mph |

| | FIEL | D NOTEBOOKS | |
|--------------------|-------------|-----------------------|----------------|
| Lucas Hay Book 2 | Page: 68-70 | Tyler Williams Book 2 | Pages: 115-117 |
| James Schut Book 1 | Page: 78-81 | Ryan Swenson Book 1 | Page: 9 |

| | FIELD TESTING | | |
|---|--|-------------------|----------------|
| Submittal 5-18Q Cell 9 Riser Trench | Lifts: 1 – 3 | RT9-01 and RT9-03 | Passed |
| Submittal 5-18C Cell 10 Subgrade | Lifts: Subgrade | SG10-89A | Passed |
| Submittal 5-18J Cell 10:Admix Testing | Lifts: 1, 2, 3, 4 | SL-727 to SL-746 | Passed |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 6 – Cell 9 South Floor Grid L6 | SL-658 | Perm: On-going |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 6 – Cell 10 South Slope Grid P10 | SL-681 | Perm: On-going |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 6 - Cell 10 South Floor Grid K9 | SL-691 | Perm: On-going |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 6 – Cell 10 South Floor Grid 17 | SL-713 | Perm: On-going |

| | CQA HOLD POINT | S |
|--|----------------|----------------------|
| Submittal 5-18R-054 Cell 9 Primary Subgrade | July 23, 2010 | Panels: P-34 to P-37 |
| Submittal 5-18R-055 Cell 10 Subgrade | July 23, 2010 | Grids: F6 |

| | LABORATORY TES | TING |
|---|----------------|----------------------------|
| 5-18D Admix Soil Testing | AM-25 | Perm: On-going |
| 5-18D Admix Soil Testing | AM-26 | USCS Testing: Completed |
| 5-18K Type A Drainage Gravel | DG-A-01 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-02 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-03 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-04 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-05 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-06 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-07 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-08 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-09 | Perm and USCS: On-going |
| 5-18K Type B Drainage Gravel | DG-B-01 | Perm and USCS: On-going |
| 5-18K Type B Drainage Gravel | DG-B-02 | Perm and USCS: On-going |
| 5-18K Type B Drainage Gravel | DG-B-03 | Perm and USCS: On-going |
| 5-18A Structural Fill Base Course | SF-09 | Proctor and USCS: On-going |
| 5-18A Structural Fill Top Course | SF-10 | Proctor and USCS: On-going |
| 5-18A Structural Fill Riser Pipe Backfill | SF-11 | Proctor and USCS: On-going |





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-116 |
|----------------|-------------------------|---------------|----------------|----------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Friday, July23, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Partly Cloudy: Hi: 90°F Lo: 59°F |
| 170 | | | | Wind: 21-mph |

GENERAL ACTIVITIES

- 1.0 Housekeeping ESI continued housekeeping on the liner until the work site met CQA approval. ESI shall continue to keep the work site in an orderly and clean manner in the future.
- 2.0 Admix During testing of the admix on the north berm of Cell 10, the dozer blade inadvertently pushed up subgrade material into the admix. The subgrade sand was removed and a Shelby Tube shall be collected in that area after the next lift is placed and tested.

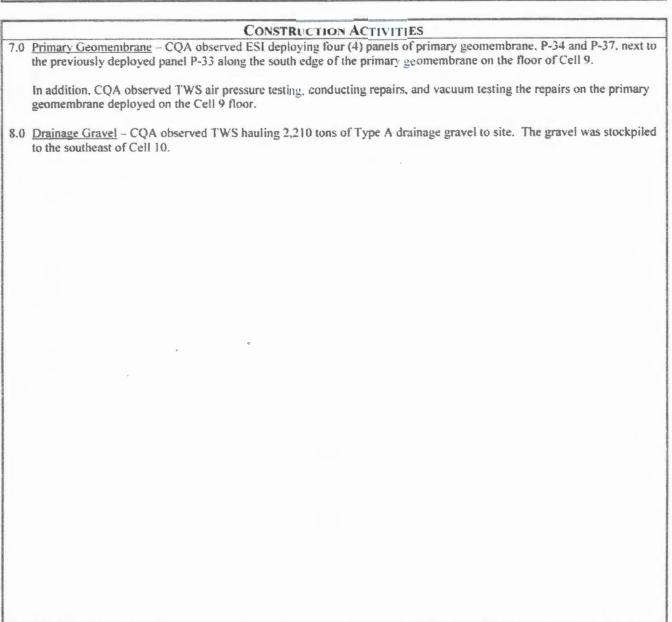
CONSTRUCTION ACTIVITIES

- 1.0 Subgrade CQA observed TWS moisture conditioning the admix subgrade prior to admix placement.
- 2.0 Admix Production Pugmill was shutdown, no admix was produced.
- 3.0 Admix Placement CQA observed TWS using two CAT D6 GPS dozers to place admix on the south half of the Cell 10 floor and slope. In addition, TWS began admix placement in the northwest side of the Cell 10 floor. CQA observed TWS using two (2) CAT 825 sheeps foot compactors to compact the admix. CQA tested and verified that each lift placed was properly moisture conditioned, compacted and that the lift met the contract specifications. Please refer to Submittal 5-18J Admix Field Data for lift completion data for all grids.
 - During the day, TWS moisture conditioned and maintained the finished admix surface. At the end of the day all unfinished admix was back dragged with the blade on the CAT D6 dozer to seal the admix.
- 4.0 Secondary Geomembrane CQA observed ESI completing repairs and vacuum testing on the secondary geomembrane.
 - In, addition, large wrinkles have developed on the secondary geomembrane on the north berm of Cell 9 between panels S-47 and S-51. CQA has notified ESI that the wrinkles will need to be removed prior to placement of geocomposite.
- 5.0 Secondary Geocomposite CQA observed ESI and TWS completing the geocomposite tie-in on the floor of Cell 9. After the tie-in was complete, CQA observed ESI deploying a total of four (4) geocomposite panels near the Cell 9 tie-in. CQA ensured that the geocomposite was joined with plastic zip ties as per the contract specifications. CQA observed the geotextile side overlaps were secured by sewing and the end overlaps were secured by leisters.
- 6.0 Secondary Leachate Collection CQA observed TWS placing and compacting two (2) lifts of backfill in the riser trench in Cell 9 with the CAT 330 excavator aided by the TWS surveyor. CQA tested and verified that both lifts met construction specifications.





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-116 |
|----------------|--------------------------------------|---------------|----------------|--|
| Job Number: | S013213A00 | Staff On-site | Date: | Friday, July23, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Partly Cloudy: Hi: 90°F Lo: 59°F Wind: 21-mph |



ENVIROTECH - CQA

8/3/10

DATE

PAGE 3 OF 3





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-117 |
|----------------|--------------------------------------|---------------|----------------|--------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Saturday, July24, 2010 |
| Contractor(s): | TradeWind Services | 2 | Weather: | Clear: Hi: 98°F Lo: 59°F |
| | onesis identification | | | Wind: 16-mph |

| T-ST-ST-ST-ST-ST-ST-ST-ST-ST-ST-ST-ST-ST | | Fı | ELD NOTEBOOKS | |
|--|--------------------|-------------|-----------------------|---------------|
| - | James Schut Book 1 | Page: 82-85 | Tyler Williams Book 2 | Pages:118-119 |

| | FIELD TESTING | | |
|---|--|------------------|-------------------------|
| Submittal 5-18J Cell 10:Admix Testing | Lifts: 1, 2, 5, and 6 | SL-747 to SL-767 | Passed SL-763 Failed |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 6 – Cell 9 South Floor Grid L6 | SL-658 | Perm: On-going |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 6 – Cell 10 South Slope Grid P10 | SL-681 | Perm: On-going |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 6 – Cell 10 South Floor Grid K9 | SL-691 | Perm: On-going |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 6 - Cell 10 South Floor Grid 17 | SL-713 | Perm: On-going |

| | CQA HOLD POIN | TS |
|--------------------------------------|---------------|------------------------------------|
| Submittal 5-18R-056 Cell 10 Subgrade | July 24, 2010 | Grids: A6, B6, C6, A7, B7, C7, A9, |
| | | B9, C9, D9, A10, B10, C10, and D10 |

| | LABORATORY TEST | ring . |
|---|-----------------|----------------------------|
| 5-18D Admix Soil Testing | AM-25 | Perm: On-going |
| 5-18D Admix Soil Testing | AM-26 | USCS Testing: Completed |
| 5-18K Type A Drainage Gravel | DG-A-01 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-02 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-03 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-04 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-05 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-06 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-07 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-08 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-09 | Perm and USCS: On-going |
| 5-18K Type B Drainage Gravel | DG-B-01 | Perm and USCS: On-going |
| 5-18K Type B Drainage Gravel | DG-B-02 | Perm and USCS: On-going |
| 5-18K Type B Drainage Gravel | DG-B-03 | Perm and USCS: On-going |
| 5-18A Structural Fill Base Course | SF-09 | Proctor and USCS: On-going |
| 5-18A Structural Fill Top Course | SF-10 | Proctor and USCS: On-going |
| 5-18A Structural Fill Riser Pipe Backfill | SF-11 | Proctor and USCS: On-going |





| Project 1D: | 01-0032 ERDF Cells 9-10 |) Construction | Report Number: | 5-16-117 |
|----------------|-------------------------|----------------|----------------|--|
| Job Number: | S013213A00 | Staff On-site | Date: | Saturday, July24, 2010 |
| Contractor(s): | TradeWind Services | 2 | Weather: | Clear: Hi: 98°F Lo: 59°F Wind: 16-mph |

GENERAL ACTIVITIES 1.0 Weekend Construction – Construction on the project was limited to admix placement for report 117.

CONSTRUCTION ACTIVITIES

- 1.0 <u>Subgrade</u> CQA observed TWS moisture conditioning and compacting the admix subgrade with the CAT 563 roller prior to admix placement.
- 2.0 Admix Placement CQA observed TWS using two CAT D6 GPS dozers to place admix on the west side of the Cell 10 floor and slope. In addition, TWS began admix placement in the on the north slope and toe of Cell 10. CQA observed TWS using two (2) CAT 825 sheepsfoot compactors to compact the admix. CQA tested and verified that each lift placed was properly moisture condition, compacted and that the lift met the contract specifications. Please refer to Submittal 5-18J Admix Field Data for lift completion data for all grids.

During the day, TWS moisture conditioned and maintained the finished admix surface. At the end of the day all unfinished admix was back dragged with the blade on the CAT D6 dozer to seal the admix. Sealing the admix prevent excessive moisture loss overnight.

One test SL-763 failed to meet specifications, TWS shall rework and CQA shall retest at a later date.

ENVIROTECH-CQA DATE

M1 Page 189 of 376

PAGE 2 OF 2





| Project ID: | 01-0032 ERDF Cells 9-1 |) Construction | Report Number: | 5-16-118 |
|---|------------------------|----------------|----------------|---------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Monday, July 26, 2010 |
| Contractor(s): | TradeWind Services | 7 | Weather: | Clear: Hi: 104°F Lo: 68°F |
| 000000000000000000000000000000000000000 | | | | Wind: 19-mph |

| | | LD NOTEBOOKS | |
|---------------------|-------------|-----------------------|----------------|
| Joe Voss Book 2 | Page: 1-3 | Tyler Williams Book 2 | Pages: 121-122 |
| Lucas Hay Book 2 | Page: 71-73 | James Schut Book 1 | Page: 86-88 |
| Ryan Swenson Book I | Page: 10 | | |

| FIELD TESTING | | | | | | |
|---|--|------------------|------------------------------------|--|--|--|
| Submittal 5-18C Subgrade Testing | Cell 10 Floor | SG-099 to SG-102 | Passed | | | |
| Submittal 5-18E Belt Scale Measurements | July 26, 2010 | 4,900 Tons | Passed | | | |
| Submittal 5-18J Cell 10:Admix Testing | Lifts: 1, 2, 5, and 6 | SL-768 to SL-783 | Passed SL-763 Failed | | | |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 6 – Cell 9 South Floor Grid L6 | SL-658 | Perm: Passed | | | |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 6 – Cell 10 South Slope Grid P10 | SL-681 | Perm: On-going | | | |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 6 - Cell 10 South Floor Grid K9 | SL-691 | Perm: On-going | | | |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 6 - Cell 10 South Floor Grid 17 | SL-713 | Perm: On-going | | | |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 6 – Cell 10 North Floor Grid F6 | SL-781 | Sample Collected Perm: On-going | | | |

| CQA HOLD POINTS | | | | |
|--------------------------------------|---------------|----------------------|--|--|
| Submittal 5-18R-057 Cell 10 Subgrade | July 26, 2010 | Grids: E10, F10, G10 | | |
| Submittal 5-18R-058 Cell 9 Admix | July 26, 2010 | Panels: S-58 to S-59 | | |

| LABORATORY TESTING | | | | |
|------------------------------|---------|----------------------------|--|--|
| 5-18D Admix Soil Testing | AM-25 | Perm: Passed | | |
| 5-18D Admix Soil Testing | AM-27 | Sample Collected | | |
| | | USCS and Proctor: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-01 | Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-02 | Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-03 | Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-04 | Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-05 | Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-06 | Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-07 | Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-08 | Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-09 | Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-10 | Sample Collected | | |
| 5-18K Type A Drainage Gravel | DG-A-11 | Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-12 | | | |





| Project ID: | 01-0032 ERDF Cells 9-1 |) Construction | Report Number: | 5-16-118 |
|----------------|------------------------|----------------|----------------|---|
| Job Number: | S013213A00 | Staff On-site | Date: | Monday, July 26, 2010 |
| Contractor(s): | TradeWind Services | 7 | Weather: | Clear: Hi: 104°F Lo: 68°F Wind: 19-mph |

| LABORATORY TESTING (CONTINUED) | | | | | |
|--|---------|-----------------------------|--|--|--|
| 5-18K Type B Drainage Gravel | DG-B-01 | Perm and USCS: On-going | | | |
| 5-18K Type B Drainage Gravel | DG-B-02 | Perm and USCS: On-going | | | |
| 5-18K Type B Drainage Gravel | DG-B-03 | Perm and USCS: On-going | | | |
| 5-18A Structural Fill Base Course | SF-09 | Proctor and USCS: On-going | | | |
| 5-18A Structural Fill Top Course | SF-10 | Proctor and USCS: On-going | | | |
| 5-18A Structural Fill Riser Pipe Backfill 5-18P Riser Pipe Backfill | SF-11 | Proctor and USCS: Completed | | | |

GENERAL ACTIVITIES

- 1.0 Bentonite Delivery CQA inspected the TWS railroad siding located in north Richland by Horn Rapids. The rail cars were divided into three (3) compartments, with each compartment holding approximately 33 tons. The bentonite was gravity feed from the bottom of the cars into augers. The augers conveyed the bentonite into blow trucks that in turn transport the bentonite to the construction site.
- 2.0 Stop Work A stop work was ordered by CQA on geomembrane activities at 14:00 when liner temperature reached 104 degrees 12 inches above the liner.

CONSTRUCTION ACTIVITIES

- 1.0 <u>Subgrade</u> CQA observed TWS moisture conditioning and compacting the admix subgrade with the CAT 563 roller prior to admix placement. In addition, the CQA surveyors were on-site to verify that the subgrade met design tolerances.
- 2.0 Admix Production TWS produced a total of 4,900 tons of admix material on Monday, July 26, 2010. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications.
- 3.0 Admix Placement CQA observed TWS using two CAT D6 GPS dozers to place admix on the west side of the Cell 10 floor. CQA observed TWS using two (2) CAT 825 sheepsfoot compactors to compact the admix. CQA tested and verified that each lift placed was properly moisture condition, compacted and that the lift met the contract specifications. The final lift of admix was cut to grade with a D6 GPS dozer and rolled with a CAT 563 smooth drum roller. Please refer to Submittal 5-18J Admix Field Data for lift completion data for all grids.

During the day, TWS moisture conditioned and maintained the finished admix surface. At the end of the day all unfinished admix was back dragged with the blade on the CAT D6 dozer to seal the admix

The CQA surveyors were on-site to verify the thickness of the admix in Cell 10.





| Project ID: | 01-0032 ERDF Cells 9-10 |) Construction | Report Number: | 5-16-118 |
|----------------|-------------------------|----------------|----------------|---|
| Job Number: | S013213A00 | Staff On-site | Date: | Monday, July 26, 2010 |
| Contractor(s): | TradeWind Services | 7 | Weather: | Clear: Hi: 104°F Lo: 68°F Wind: 19-mph |

CONSTRUCTION ACTIVITIES

- 4.0 Secondary Geomembrane CQA observed ESI deploying secondary geomembrane panels S-58 and S-59 in Cell 9 sump and rise trench. The panels were deployed from the top of the north berm of Cell 9 down the slope and across the floor. CQA observed ESI double wedge fusion welding panels S-57 to S-59 together. After the welding was completed, ESI air pressure tested both seams
 - In, addition, large wrinkles have developed on the secondary geomembrane on the north berm of Cell 9 between panels S-47 and S-51. CQA has notified ESI that the wrinkles will need to be removed prior to placement of geocomposite.
- 5.0 <u>Secondary Geocomposite</u> CQA observed ESI deploying eleven (11) rolls of geocomposite near the Cell 9 tie-in. CQA ensured that the geocomposite was joined with plastic zip ties as per the contract specifications. CQA observed the geotextile side overlaps were secured by sewing and the end overlaps were secured by leisters.
- 6.0 Primary Geomembrane CQA observed ESI cutting destructive samples and welding repairs on the primary geomembrane deployed on the south half of Cell 9.
- 7.0 <u>Drainage Gravel</u> CQA observed TWS hauling 2,482 tons of Type A drainage gravel to site. The gravel was stockpiled to the southeast of Cell 10. In addition, American Rock hauled 69 Itons of Type C drainage gravel to site. The material was stockpiled north of Cell 10.

ENVIROTECH - CQA

8/3/10

M1 Page 192 of 376

PAGE 3 OF 3





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-119 |
|----------------|--------------------------------------|---------------|----------------|--|
| Job Number: | S013213A00 | Staff On-site | Date: | Tuesday, July 27, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Clear: Hi: 99°F Lo: 65°F Wind: 31-mph |

| | FIEL | LD NOTEBOOKS | |
|---------------------|-------------|-----------------------|----------------|
| Joe Voss Book 2 | Page: 4-5 | Tyler Williams Book 2 | Pages: 123-125 |
| Lucas Hay Book 2 | Page: 74-75 | James Schut Book 1 | Page: 89-92 |
| Ryan Swenson Book I | Page: 11 | | |

| | FIELD TESTING | | |
|---|--|------------------|------------------------------------|
| Submittal 5-18E Belt Scale Measurements | July 27, 2010 | 4,987 Tons | Passed |
| Submittal 5-18J Cell 10:Admix Testing | Lifts: 3, 4, 5, and 6 | SL-784 to SL-800 | Passed SL-764 Failed |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 6 – Cell 10 South Slope Grid P10 | SL-681 | Perm: Passed |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 6 – Cell 10 South Floor Grid K9 | SL-691 | Perm: Passed |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 6 – Cell 10 South Floor Grid I7 | SL-713 | Perm: Passed |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 6 – Cell 10 North Floor Grid F6 | SL-781 | Perm: On-going |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 3 – Cell 10 North Floor Grid E10 | SL-786 | Sample Collected Perm: On-going |

| ۵ | CQA HOLD POINTS | |
|-------------------------------------|-----------------|--------------------|
| Submittal 5-18R-059 Cell 9 Subgrade | July 27, 2010 | Panels: T-1 to T-3 |

| | LABORATORY TEST | TING |
|------------------------------|-----------------|--|
| 5-18D Admix Soil Testing | AM-27 | USCS and Proctor: On-going |
| 5-18D Admix Soil Testing | AM-28 | Sample Collected USCS Testing: On-going |
| 5-18K Type A Drainage Gravel | DG-A-01 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-02 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-03 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-04 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-05 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-06 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-07 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-08 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-09 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-10 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-11 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-12 | Perm and USCS: On-going |





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-119 |
|----------------|--------------------------------------|---------------|----------------|--|
| Job Number: | S013213A00 | Staff On-site | Date: | Tuesday, July 27, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Clear: Hi: 99°F Lo: 65°F Wind: 31-mph |

| LABORATORY TESTING (CONTINUED) | | | |
|-----------------------------------|---------|----------------------------|--|
| 5-18K Type B Drainage Gravel | DG-B-01 | Perm and USCS: On-going | |
| 5-18K Type B Drainage Gravel | DG-B-02 | Perm and USCS: On-going | |
| 5-18K Type B Drainage Gravel | DG-B-03 | Perm and USCS: On-going | |
| 5-18A Structural Fill Base Course | SF-09 | Proctor and USCS: On-going | |
| 5-18A Structural Fill Top Course | SF-10 | Proctor and USCS: On-going | |

GENERAL ACTIVITIES

1.0 Non-conforming Geocomposite Rolls – ESI removed a roll of non-conforming geocomposite from the holding area to the construction area. CQA and the ESI superintendent both noted the non-conforming roll in the construction area. The roll was removed from the construction area and replaced in the holding area.

CONSTRUCTION ACTIVITIES

- 1.0 Subgrade CQA observed TWS moisture conditioning and compacting the admix subgrade with the CAT 563 roller.
- 2.0 Admix Production TWS produced a total of 4,987 tons of admix material on Tuesday, July 27, 2010. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications.
- 3.0 Tertiary Sump CQA observed BMWC placing and welding the tertiary sump pipe and plate into place in the Cell 10 sump. CQA observed that the pipe weld was de-beaded after placement.
- 4.0 <u>Tertiary Geomembrane</u> CQA observed ESI deploying three (3) panels of tertiary geomembrane, panels T-1 to T-3, in the Cell 10 sump. The panels were deployed east to west across the sump. ESI double wedge fusion welded the panels together.
- 5.0 Admix Placement CQA observed TWS using two CAT D6 GPS dozers to place admix on the west side of the Cell 10 floor. CQA observed TWS using two (2) CAT 825 sheepsfoot compactors to compact the admix. CQA tested and verified that each lift placed was properly moisture condition, compacted and that the lift met the contract specifications. The final lift of admix was cut to grade with a D6 GPS dozer and rolled with a CAT 563 smooth drum roller. Please refer to Submittal 5-18J Admix Field Data for lift completion data for all grids.

During the day, TWS moisture conditioned and maintained the finished admix surface. At the end of the day all unfinished admix was back dragged with the blade on the CAT D6 dozer to seal the admix





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-119 |
|----------------|--------------------------------------|---------------|----------------|--------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Tuesday, July 27, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Clear: Hi: 99°F Lo: 65°F |
| | | | | Wind: 31-mph |

CONSTRUCTION ACTIVITIES

- 6.0 Secondary Geomembrane CQA observed ESI completing repairs and non-destructive testing on panels S-58 and S-59 that were placed in the sump and up the riser trench.
 - In, addition, large wrinkles have developed on the secondary geomembrane on the north berm of Cell 9 between panels S-47 and S-51. CQA has notified ESI that the wrinkles will need to be removed prior to placement of geocomposite.
- 7.0 Secondary Geocomposite CQA observed ESI deploying five (5) rolls of geocomposite in the Cell 9 sump. CQA ensured that the geocomposite was joined with plastic zip ties as per the contract specifications. CQA observed the geotextile side overlaps were secured by sewing and the end overlaps were secured by leisters.
- 8.0 Primary Geomembrane The destructive sample DP-26 collected from the primary geomembrane in report 5-16-118 failed to meet specifications. CQA marked destructive samples DP-26A and DP-26B to encompass the failed portion of the weld. ESI tested and capped the seam between samples DP-26A and DP-26B
- 9.0 <u>Drainage Gravel</u> CQA observed TWS hauling 2,346 tons of Type A drainage gravel to site. The gravel was stockpiled to the southeast of Cell 10. In addition, American Rock hauled 488 tons of Type C drainage gravel to site. The material was stockpiled north of Cell 10.

ENVIROTECH - CQA

E/3/10

PAGE 3 OF 3





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-120 |
|----------------|--------------------------------------|---------------|----------------|----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Wednesday, July 28, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Clear: Hi: 89°F Lo: 66°F |
| | | | | Wind: 30-mph Rain-0.03-in. |

| - Control Authinition Runni | Fiel | LD NOTEBOOKS | |
|-----------------------------|-------------|-----------------------|----------------|
| Joe Voss Book 2 | Page: 6-7 | Tyler Williams Book 2 | Pages: 126-129 |
| Lucas Hay Book 2 | Page: 71-73 | James Schut Book 1 | Page: 93-95 |
| Ryan Swenson Book I | Page: 12-14 | | |

| | FIELD TESTING | | |
|---|--|------------------|------------------------------------|
| Submittal 5-18E Belt Scale Measurements | July 28, 2010 | 5,022 Tons | Passed |
| Submittal 5-18J Cell 10:Admix Testing | Lifts: 1, 2, 3, and 6 | SL-801 to SL-819 | Passed SL-764 Passed |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 6 – Cell 10 North Floor Grid F6 | SL-781 | Perm: On-going |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 3 – Cell 10 North Floor Grid E10 | SL-786 | Perm: On-going |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 2 – Cell 10 North Slope Grid C9 | SL-808 | Sample Collected Perm: On-going |

| | CQA HOLD POINT | rs |
|--------------------------------------|----------------|---------------------|
| Submittal 5-18R-060 Cell 10 Subgrade | July 28, 2010 | Grids: E9, F9, G9 |
| | | Panels: T-4 to T-11 |
| Submittal 5-18R-061 Cell 10 Admix | July 28, 2010 | Panels: S-1 to S-2 |

| LABORATORY TESTING | | | |
|------------------------------|---------|---|--|
| 5-18D Admix Soil Testing | AM-27 | USCS and Proctor: On-going | |
| 5-18D Admix Soil Testing | AM-28 | USCS Testing: On-going | |
| 5-18D Admix Soil Testing | AM-29 | Sample Collected USCS, Perm, and Proctor: On-going | |
| 5-18K Type A Drainage Gravel | DG-A-01 | Perm and USCS: On-going | |
| 5-18K Type A Drainage Gravel | DG-A-02 | Perm and USCS: On-going | |
| 5-18K Type A Drainage Gravel | DG-A-03 | Perm and USCS: On-going | |
| 5-18K Type A Drainage Gravel | DG-A-04 | Perm and USCS: On-going | |
| 5-18K Type A Drainage Gravel | DG-A-05 | Perm and USCS: On-going | |
| 5-18K Type A Drainage Gravel | DG-A-06 | Perm and USCS: On-going | |
| 5-18K Type A Drainage Gravel | DG-A-07 | Perm and USCS: On-going | |
| 5-18K Type A Drainage Gravel | DG-A-08 | Perm and USCS: On-going | |
| 5-18K Type A Drainage Gravel | DG-A-09 | Perm and USCS: On-going | |
| 5-18K Type A Drainage Gravel | DG-A-10 | Perm and USCS: On-going | |
| 5-18K Type A Drainage Gravel | DG-A-11 | Perm and USCS: On-going | |
| 5-18K Type A Drainage Gravel | DG-A-12 | Perm and USCS: On-going | |





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-120 |
|----------------|--|---------------|----------------|----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Wednesday, July 28, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Clear: Hi: 89°F Lo: 66°F |
| | TO THE PROPERTY OF THE PROPERT | | | Wind: 30-mph Rain-0.03-in. |

| замы польшина учение довержной польшений менеральной делений образований образовании образований образовании образований образовании образований образовании образований образований образований образований образовании образовании образований образовании образовани | ABORATORY TESTING (C | CONTINUED) |
|---|----------------------|----------------------------|
| 5-18K Type B Drainage Gravel | DG-B-01 | Perm and USCS: On-going |
| 5-18K Type B Drainage Gravel | DG-B-02 | Perm and USCS: On-going |
| 5-18K Type B Drainage Gravel | DG-B-03 | Perm and USCS: On-going |
| 5-18A Structural Fill Base Course | SF-09 | Proctor and USCS: On-going |
| 5-18A Structural Fill Top Course | SF-10 | Proctor and USCS: On-going |

GENERAL ACTIVITIES

1.0 Panel Deployment – ESI used the track bobcat to deploy geomembrane on the south slope. CQA contacted WCH, who halted use of the track bobcat on the Cell 10 slope. WCH indicated that the track bobcat was not approved for use on the side slopes. Later that day, WCH approved the track bobcat for pulling geomembrane panels down the slopes.

CONSTRUCTION ACTIVITIES

- 1.0 <u>Subgrade</u> CQA observed TWS moisture conditioning and compacting the admix subgrade with the CAT 563 roller prior to admix placement.
- 2.0 Admix Production TWS produced a total of 5,022 tons of admix material on Wednesday, July 28, 2010. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications.
- 3.0 <u>Tertiary Geomembrane</u> CQA observed ESI deploying eight (8) panels of tertiary geomembrane, panels T-4 to T-11, in the Cell 10 tertiary sump. After the geomembrane panels were deployed, ESI double wedge fusion welded all panels together.
 - CQA also observed ESI repairing the geomembrane and conducting air tests, pressure tests, and destructive tests on the installed geomembrane. In addition, ESI welded the tertiary sump plate to the geomembrane as per design drawing.
- 4.0 Admix Placement CQA observed TWS using two CAT D6 GPS dozers to place admix on the west side of the Cell 10 floor and slope. CQA observed TWS using two (2) CAT 825 sheepsfoot compactors to compact the admix. CQA tested and verified that each lift placed was properly moisture condition, compacted and that the lift met the contract specifications. The final lift of admix was cut to grade with a D6 GPS dozer and rolled with a CAT 563 smooth drum roller. Please refer to Submittal 5-18J Admix Field Data for lift completion data for all grids.

During the day, TWS moisture conditioned and maintained the finished admix surface. At the end of the day all unfinished admix was back dragged with the blade on the CAT D6 dozer to seal the admix





| 01-0032 ERDF Cells 9-10 | 0 Construction | Report Number: | 5-16-120 |
|-------------------------|----------------|----------------|--|
| S013213A00 | Staff On-site | Date: | Wednesday, July 28, 2010 |
| TradeWind Services | 5 | Weather: | Clear: Hi: 89°F Lo: 66°F Wind: 30-mph Rain-0.03-in. |
| | S013213A00 | | S013213A00 Staff On-site Date: |

CONSTRUCTION ACTIVITIES

5.0 Secondary Geomembrane - CQA observed ESI deploying secondary geomembrane panels S-01 to S-02 over accepted admix subgrade on the south slope and floor of Cell 10. The panels were deployed from the south anchor trench down the south embankment. A rub sheet was utilized at the shoulder of the admix slope to minimize erosion. After the sheets were deployed, two fusion welders seamed the secondary geomembrane together.

In order to place Type B drainage gravel in the Cell 9 sump, ESI cut geomembrane panel S-59 to allow the payhaulers access to the sump.

In, addition, large wrinkles have developed on the secondary geomembrane on the north berm of Cell 9 between panels S-47 and S-51. CQA has notified ESI that the wrinkles will need to be removed prior to placement of geocomposite.

- 6.0 Secondary Drainage Gravel CQA observed TWS placing Type B drainage gravel into the Cell 9 sump. The drainage gravel was loaded into International Payhaulers and backed over the admix. During the placement of the drainage gravel, the payhauler left 6-8 inch deep ruts in the admix surface. TWS shall repair the ruts as per repair procedures at a later date. After the drainage gravel was placed into the sump, the gravel was spread as per design with a CAT 312 excavator aided by the TWS surveyor.
- 7.0 Drainage Gravel CQA observed TWS hauling 2,482 tons of Type A drainage gravel to site. The gravel was stockpiled to the southeast of Cell 10.

ENVIROTECH - CQA

615/10

PAGE 3 OF 3





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-121 |
|----------------|-------------------------|---------------|----------------|----------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Thursday, July 29, 2010 |
| Contractor(s): | TradeWind Services | 7 | Weather: | Partly Cloudy: Hi: 99°F Lo: 59°F |
| | | | | Wind: 17-mph |

| | FIE | LD NOTEBOOKS | |
|---------------------|-------------|-----------------------|----------------|
| Joe Voss Book 2 | Page: 8-9 | Tyler Williams Book 2 | Pages: 130-131 |
| Lucas Hay Book 2 | Page: 80-81 | James Schut Book 1 | Page: 96-99 |
| Ryan Swenson Book 1 | Page: 15-16 | | |

| | FIELD TESTING | | |
|---|--|------------------|------------------------------------|
| Submittal 5-18E Belt Scale Measurements | July 29, 2010 | 4.990 Tons | Passed |
| Submittal 5-18J Cell 9:Admix Testing | Lifts: 5 and 6 | SL-820 to SL-821 | Passed |
| Submittal 5-18J Cell 10:Admix Testing | Lifts: 1, 2, 3, and 6 | SL-822 to SL-838 | Passed |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 6 – Cell 10 North Floor Grid F6 | SL-781 | Perm: On-going |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 3 – Cell 10 North Floor Grid E10 | SL-786 | Perm: On-going |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 2 – Cell 10 North Slope Grid C9 | SL-808 | Perm: On-going |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 4 – Cell 10 North Slope Grid A10 | SL-828 | Sample Collected Perm: On-going |

| CQA HOLD POINTS | | | | |
|--------------------------------------|---------------|----------------------|--|--|
| Submittal 5-18R-062 Cell 10 Subgrade | July 29, 2010 | Grids: E6 | | |
| Submittal 5-18R-063 Cell 9 Admix | July 29, 2010 | Panels: S-60 to S-62 | | |
| Submittal 5-18R-064 Cell 10 Admix | July 29, 2010 | Panels: S-3 to S-4 | | |

| LABORATORY TESTING | | | | |
|------------------------------|---------|-----------------------------------|--|--|
| 5-18D Admix Soil Testing | AM-27 | USCS and Proctor: Passed | | |
| 5-18D Admix Soil Testing | AM-28 | USCS Testing: Passed | | |
| 5-18D Admix Soil Testing | AM-29 | USCS, Perm, and Proctor: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-01 | Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-02 | Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-03 | Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-04 | Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-05 | Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-06 | Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-07 | Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-08 | Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-09 | Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-10 | Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-11 | Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-12 | Perm and USCS: On-going | | |





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-121 |
|----------------|-------------------------|---------------|----------------|----------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Thursday, July 29, 2010 |
| Contractor(s): | TradeWind Services | 7 | Weather: | Partly Cloudy: Hi: 99°F Lo: 59°F |
| | | | | Wind: 17-mph |

| | LABORATORY TESTING (| CONTINUED) |
|-----------------------------------|----------------------|--|
| 5-18K Type B Drainage Gravel | DG-B-01 | Perm and USCS: On-going |
| 5-18K Type B Drainage Gravel | DG-B-02 | Perm and USCS: On-going |
| 5-18K Type B Drainage Gravel | DG-B-03 | Perm and USCS: On-going |
| 5-18K Type C Drainage Gravel | DG-C-01 | Sample Collected Perm and USCS: On-going |
| 5-18A Structural Fill Base Course | SF-09 | Proctor and USCS: On-going |
| 5-18A Structural Fill Top Course | SF-10 | Proctor and USCS: On-going |

CONSTRUCTION ACTIVITIES

- 1.0 <u>Subgrade</u> CQA observed TWS moisture conditioning and compacting the admix subgrade with the CAT 563 roller prior to admix placement.
- 2.0 Admix Production TWS produced a total of 4,990 tons of admix material on Thursday, July 29, 2010. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications.
- 3.0 <u>Tertiary Geomembrane</u> CQA observed ESI completing repair on the tertiary geomembrane. In addition, Stratton Survey was on-site to conduct the tertiary seam survey.
 - CQA also observed ESI deploying 16 oz geotextile over the tertiary geomembrane in the Cell 10 lysimeter sump. After placing the geotextile over the geomembrane, ESI also placed a geotextile sleeve around the tertiary drain pipe in the lysimeter sump. The 16oz geotextile material was zip tied together to form a fabric boot.
- 4.0 Admix Placement CQA observed TWS using two CAT D6 GPS dozers to place admix on the north half of the Cell 10 floor and slope. CQA observed TWS using two (2) CAT 825 sheepsfoot compactors to compact the admix. CQA tested and verified that each lift placed was properly moisture condition, compacted and that the lift met the contract specifications. The final lift of admix was cut to grade with a D6 GPS dozer and rolled with a CAT 563 smooth drum roller. Please refer to Submittal 5-18J Admix Field Data for lift completion data for all grids.

During the day, TWS moisture conditioned and maintained the finished admix surface. At the end of the day all unfinished admix was back dragged with the blade on the CAT D6 dozer to seal the admix. Stratton Survey was onsite to verify the admix thickness on the Cell 10 south slope and floor.

In addition, the ruts created by the payhauler trucks were repaired. CQA observed TWS utilizing the CAT 825 compactor to scarify the area prior to admix placement. TWS then placed and compacted two (2) lifts of admix in the truck ruts. Each lift was compacted with a CAT 825 sheepsfoot compactor. CQA tested and verified that both lifts met compaction specifications. TWS trimmed the final lift back to design grade, and Stratton Survey verified design thickness.





| Project ID: | 01-0032 ERDF Cells 9-1 | 0 Construction | Report Number: | 5-16-121 |
|----------------|------------------------|----------------|----------------|--|
| Job Number: | S013213A00 | Staff On-site | Date: | Thursday, July 29, 2010 |
| Contractor(s): | TradeWind Services | 7 | Weather: | Partly Cloudy: Hi: 99°F Lo: 59°F Wind: 17-mph |

CONSTRUCTION ACTIVITIES

5.0 Secondary Geomembrane – CQA observed ESI deploying secondary geomembrane panels S-03 to S-04 over accepted admix subgrade on the south slope and floor of Cell 10. The panels were deployed from the south anchor trench down the south embankment. A rub sheet was utilized at the shoulder of the admix slope to minimize erosion. After the sheets were deployed, two fusion welders seamed the secondary geomembrane together.

In, addition, large wrinkles have developed on the secondary geomembrane on the north berm of Cell 9 between panels S-47 and S-51. CQA has notified ESI that the wrinkles will need to be removed prior to placement of geocomposite.

CQA also observed ESI deploying secondary geomembrane in S-60 to S-62 over accepted admix subgrade on the north slope and floor of Cell 9. The panels were deployed from the south anchor trench down the south embankment. A rub sheet was utilized at the shoulder of the admix slope to minimize erosion. After the sheets were deployed, two fusion welders seamed the secondary geomembrane together.

At the end of the day, the section of admix where panel S-59 was to be repaired did not meet construction specifications for excess water and stability. ESI chose to wait until Friday, Report 5-16-122, to repair panel S-59, leaving a 100-ft long hole in the secondary geomembrane. ESI protected the area by placing sand bags under the geomembrane to slope away storm water run-off.

- 6.0 Secondary Geocomposite CQA observed ESI deploying seven (7) rolls of geocomposite near in the Cell 9 tie-in. CQA ensured that the geocomposite was joined with plastic zip ties as per the contract specifications. CQA observed the geotextile side overlaps were secured by sewing and the end overlaps were secured by leisters. After the geocomposite was in-place, CQA observed TWS and ESI laborers placing drainage gavel 2-ft over the secondary composite as per design drawings.
- 7.0 Primary Geomembrane The CQA surveyors were on-site to conduct the primary seam survey.
- 8.0 <u>Drainage Gravel</u> CQA observed TWS hauling 2,414 tons of Type A drainage gravel to site. The gravel was stockpiled to the southeast of Cell 10.

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ENVIROTECH-CQA DATE





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-122 |
|----------------|--|---------------|----------------|-----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Friday, July 30, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Overcast: Hi: 99°F Lo: 70°F |
| | and the same of th | | BANANA 14 | Wind: 23-mph Rain: 0.36-in |

| | FIEL | D NOTEBOOKS | |
|---------------------|--------------|-----------------------|----------------|
| Joe Voss Book 2 | Pages: 11-12 | Tyler Williams Book 2 | Pages: 132 |
| Lucas Hay Book 2 | Pages: 82-83 | James Schut Book 1 | Pages: 100-102 |
| Ryan Swenson Book 1 | Pages: 17-18 | | |

| FIELD TESTING | | | | | |
|---|--|------------------|----------------|--|--|
| Submittal 5-18E Belt Scale Measurements | July 30, 2010 | 3,767 Tons | Passed | | |
| Submittal 5-18J Cell 10:Admix Testing | Lifts: 1, 2, 3, 5, and 6 | SL-839 to SL-857 | Passed | | |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 6 – Cell 10 North Floor Grid F6 | SL-781 | Perm: On-going | | |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 3 – Cell 10 North Floor Grid E10 | SL-786 | Perm: On-going | | |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 2 – Cell 10 North Slope Grid C9 | SL-808 | Perm: On-going | | |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 4 – Cell 10 North Slope Grid A10 | SL-828 | Perm: On-going | | |

| | CQA HOLD POINT | rs |
|--------------------------------------|----------------|----------------------|
| Submittal 5-18R-065 Cell 10 Subgrade | July 30, 2010 | Grids: E7 |
| Submittal 5-18R-066 Cell 9 Admix | July 30, 2010 | Panels: S-63 to S-66 |

| | LABORATORY TEST | FING |
|------------------------------|-----------------|--|
| 5-18D Admix Soil Testing | AM-29 | USCS, Passed Perm, and Proctor: On-going |
| 5-18D Admix Soil Testing | AM-30 | Sample Collected USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-01 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-02 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-03 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-04 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-05 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-06 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-07 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-08 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-09 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-10 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-11 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-12 | Perm and USCS: On-going |
| 5-18K Type B Drainage Gravel | DG-B-01 | Perm and USCS: On-going |
| 5-18K Type B Drainage Gravel | DG-B-02 | Perm and USCS: On-going |
| 5-18K Type B Drainage Gravel | DG-B-03 | Perm and USCS: On-going |





| Project ID: | 01-0032 ERDF Cells 9-10 |) Construction | Report Number: | 5-16-122 |
|----------------|-------------------------|----------------|----------------|---|
| Job Number: | S013213A00 | Staff On-site | Date: | Friday, July 30, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Overcast: Hi: 99°F Lo: 70°F Wind: 23-mph Rain: 0.36-in |

| | ABORATORY TESTING (| CONTINUED) |
|-----------------------------------|---------------------|----------------------------|
| 5-18K Type C Drainage Gravel | DG-C-01 | Perm and USCS: On-going |
| 5-18A Structural Fill Base Course | SF-09 | Proctor and USCS: On-going |
| 5-18A Structural Fill Top Course | SF-10 | Proctor and USCS: On-going |

GENERAL ACTIVITIES

1.0 Weather Delay – During the morning hours, a rain and lightning storm delayed the start of construction activities until approximately 8:10. The Cell 9 and 10 sumps were half filled with storm water and the section of admix left exposed gathered storm water. Upon CQA inspection, no storm water from the limited storm water penetrated under the secondary geomembrane.

CONSTRUCTION ACTIVITIES

- 1.0 <u>Subgrade</u> CQA observed TWS moisture conditioning and compacting the admix subgrade with the CAT 563 roller prior to admix placement.
- 2.0 Admix Production TWS produced a total of 3.767 tons of admix material on Friday, July 30, 2010. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications.
- 3.0 Admix Placement CQA observed TWS using two CAT D6 GPS dozers to place admix mainly on the north berm of the Cell 10 with some additional admix placed on the Cell 10 floor. CQA observed TWS using two (2) CAT 825 sheepsfoot compactors to compact the admix. CQA tested and verified that each lift placed was properly moisture condition, compacted and that the lift met the contract specifications. The final lift of admix was cut to grade with a D6 GPS dozer and rolled with a CAT 563 smooth drum roller. Please refer to Submittal 5-18J Admix Field Data for lift completion data for all grids.

During the day, TWS moisture conditioned and maintained the finished admix surface. At the end of the day all unfinished admix was back dragged with the blade on the CAT D6 dozer to seal the admix.

TWS attempted to repair the section of admix that was left exposed near the Cell 9 sump. The admix was spread out and left to dry. At the end of the day, the admix where panel S-59 was to be repaired did not meet construction specifications for excess water and stability. ESI chose to wait until Monday, Report 5-16-123, to repair panel S-59, leaving a 100-ft long hole in the secondary geomembrane. ESI protected the area by placing sand bags under the geomembrane to slope away storm water run-off.





| Project ID: | 01-0032 ERDF Cells 9-10 | O Construction | Report Number: | 5-16-122 |
|----------------|-------------------------|----------------|----------------|-----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Friday, July 30, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Overcast: Hi: 99°F Lo: 70°F |
| | - | | | Wind: 23-mph Rain: 0.36-in |

CONSTRUCTION ACTIVITIES

- 4.0 Secondary Geomembrane CQA observed ESI deploying secondary geomembrane panels S-63 to S-66 over accepted admix subgrade on the north slope and floor of Cell 9. The panels were deployed from the north anchor trench down the north embankment. A rub sheet was utilized at the shoulder of the admix slope to minimize erosion. After the sheets were deployed, two fusion welders seamed the secondary geomembrane together.
 - In, addition, large wrinkles have developed on the secondary geomembrane on the north berm of Cell 9 between panels S-47 and S-51. CQA has notified ESI that the wrinkles will need to be removed prior to placement of geocomposite.
- 5.0 <u>Secondary Geocomposite</u> CQA observed TWS laborers placing drainage gavel 2-ft over the secondary composite on the Cell 9 liner tie-in as per design drawings.
- 6.0 Primary Geomembrane CQA observed ESI conducting air pressure testing on the deployed primary geomembrane.
- 7.0 <u>Drainage Gravel</u> CQA observed TWS hauling 2,142 tons of Type A drainage gravel to site. The gravel was stockpiled to the southeast of Cell 10.

ENVIROTECH-CQA

8/1/10 DATE

PAGE 3 OF 3





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-123 |
|----------------|-------------------------|---------------|----------------|--------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Monday, August 2, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Clear: Hi: 93°F Lo: 69°F |
| | LA VALANTINA | | | Wind: 15+mph |

| | FIEL | D NOTEBOOKS | |
|---------------------|--------------|-----------------------|----------------|
| Joe Voss Book 2 | Pages: 14-18 | Tyler Williams Book 2 | Pages: 133-135 |
| Lucas Hay Book 2 | Pages: 84-85 | James Schut Book 1 | Pages: 104-106 |
| Ryan Swenson Book 1 | Pages: 19-22 | | |

| | FIELD TESTING | | |
|---|--|------------------|----------------|
| Submittal 5-18E Belt Scale Measurements | August 2, 2010 | 5,579 Tons | Passed |
| Submittal 5-18J Cell 10:Admix Testing | Lifts: 1, 3, 4, 5, and 6 | SL-858 to SL-882 | Passed |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 6 – Cell 10 North Floor Grid F6 | SL-781 | Perm: Passed |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 3 - Cell 10 North Floor Grid E10 | SL-786 | Perm: Passed |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 2 - Cell 10 North Slope Grid C9 | SL-808 | Perm: On-going |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 4 – Cell 10 North Slope Grid A10 | SL-828 | Perm: On-going |

| | CQA HOLD POINTS | S |
|--------------------------------------|-----------------|---------------------|
| Submittal 5-18R-067 Cell 10 Subgrade | August 2, 2010 | Grids: G7 and F7 |
| Submittal 5-18R-068 Cell 10 Admix | August 2, 2010 | Panels: S-5 to S-12 |

| | LABORATORY TEST | TING |
|------------------------------|-----------------|--|
| 5-18D Admix Soil Testing | AM-29 | Perm and Proctor: On-going |
| 5-18D Admix Soil Testing | AM-30 | USCS: On-going |
| 5-18D Admix Soil Testing | AM-31 | Sample Collected USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-01 | Perm and USCS: Passed |
| 5-18K Type A Drainage Gravel | DG-A-02 | Perm and USCS: Passed |
| 5-18K Type A Drainage Gravel | DG-A-03 | Perm: Passed USCS: Failed Gravel Passes (see General Activities) |
| 5-18K Type A Drainage Gravel | DG-A-04 | Perm and USCS: Passed |
| 5-18K Type A Drainage Gravel | DG-A-05 | Perm and USCS: Passed |
| 5-18K Type A Drainage Gravel | DG-A-06 | Perm and USCS: Passed |
| 5-18K Type A Drainage Gravel | DG-A-07 | Perm and USCS: Passed |
| 5-18K Type A Drainage Gravel | DG-A-08 | Perm and USCS: Passed |
| 5-18K Type A Drainage Gravel | DG-A-09 | Perm and USCS: Passed |
| 5-18K Type A Drainage Gravel | DG-A-10 | Perm and USCS: Passed |
| 5-18K Type A Drainage Gravel | DG-A-11 | Perm and USCS: Passed |
| 5-18K Type A Drainage Gravel | DG-A-12 | Perm and USCS: Passed |
| 5-18K Type A Drainage Gravel | DG-A-13 | Sample Collected Perm and USCS: On-going |



FINAL REPORT
CONSTRUCTION QUALITY ASSURANCE (CQA)
ENVIRONMENTAL RESTORATION DISPOSAL FACILITY (ERDF)
SUPER CELL 9
SUBCONTRACT S013213A00
010.032-00-ROB

M.1

DAILY REPORTS

(CONTINUED FROM PREVIOUS VOLUME 6)







| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-123 |
|----------------|-------------------------|---------------|----------------|--------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Monday, August 2, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Clear: Hi: 93°F Lo: 69°F |
| | or Disposition | | | Wind: 15-mph |

| LABORATORY TESTING (CONTINUED) | | |
|-----------------------------------|---------|-----------------------------|
| 5-18K Type B Drainage Gravel | DG-B-01 | Perm and USCS: Passed |
| 5-18K Type B Drainage Gravel | DG-B-02 | Perm and USCS: Passed |
| 5-18K Type B Drainage Gravel | DG-B-03 | Perm and USCS; Passed |
| 5-18K Type C Drainage Gravel | DG-C-01 | Perm and USCS: On-going |
| 5-18A Structural Fill Base Course | SF-09 | Proctor and USCS: Completed |
| 5-18A Structural Fill Top Course | SF-10 | Proctor and USCS: Completed |

GENERAL ACTIVITIES

- 1.0 Cell 9 Sump Repair Saturday morning, the site received approximately 0.42-in of rain. As a result the water flooded the Cell 9 sump and the backwater rose over the exposed portion of panel S-59. Storm water was introduced under the secondary geomembrane. TWS is working on pumping the storm water from the Cell 9 sump.
- 2.0 <u>Cell 10 Sump</u> The storm water also flooded the Cell 10 sump; however, no storm water was introduced under the geomembrane. TWS is working on pumping the storm water from the sump.
- 3.0 Sand Cone CQA technicians began performing a sand cone test; however, prior to weighing back the oven dried sample, the soil was placed into the waste soil container. CQA is initiating SDDR-04 to cover the failed sand cone test.
- 4.0 Previous Reporting Submitted with this report is the updated test records from days 5-16-111 and 5-16-112 detailing the rock compaction of the east ramp. The rock testing has been updated with the rock proctors SF-09 and SF-10 completed with this report. All testing met contract specifications.
- 5.0 <u>Drainage Gravel</u> Test DG-A-02 had 5% of fines pass through the No. 100 sieve, not meeting the construction specifications of 4% passing the No. 100 sieve. After reviewing the permeability results, Tim Wintel, WCH Project Engineer, approved the material for use in Cell construction.

CONSTRUCTION ACTIVITIES

- 1.0 <u>Subgrade</u> CQA observed TWS moisture conditioning and compacting the admix subgrade with the CAT 563 roller prior to admix placement.
- 2.0 Cell 10 Lysimeter TWS placed drainage gravel into the Cell 10 sump. Gravel was loaded into payhaulers, which drove over subgrade material. The rock was placed into the Cell 10 sump, where it was spread with a CAT 312 excavator.
- 3.0 Admix Production TWS produced a total of 5,579 tons of admix material on Monday, August 2, 2010. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications. Admix was also produced on Saturday, July 31, 2010. Due to mechanical problems, only 1,274 tons of admix material was produced.





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-123 |
|----------------|--------------------------------------|---------------|----------------|--------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Monday, August 2, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Clear: Hi: 93°F Lo: 69°F |
| | | | | Wind: 15-mph |

CONSTRUCTION ACTIVITIES

4.0 Admix Placement - CQA observed TWS using two CAT D6 GPS dozers to place admix mainly on the west side of the north berm of the Cell 10 with some additional admix placed near the center of the Cell 10 floor. CQA observed TWS using two (2) CAT 825 sheepsfoot compactors to compact the admix. CQA tested and verified that each lift placed was properly moisture condition, compacted and that the lift met the contract specifications. The final lift of admix was cut to grade with a D6 GPS dozer and rolled with a CAT 563 smooth drum roller. Please refer to Submittal 5-18J Admix Field Data for lift completion data for all grids.

During the day, TWS moisture conditioned and maintained the finished admix surface. At the end of the day all unfinished admix was back dragged with the blade on the CAT D6 dozer to seal the admix.

5.0 Secondary Geomembrane – CQA observed ESI deploying secondary geomembrane panels S-5 to S-12 over accepted admix subgrade on the south slope and floor of Cell 10. The panels were deployed from the south anchor trench down the south embankment. A rub sheet was utilized at the shoulder of the admix slope to minimize erosion. After the sheets were deployed, two fusion welders seamed the secondary geomembrane together.

In, addition, large wrinkles have developed on the secondary geomembrane on the north berm of Cell 9 between panels S-47 and S-51 as well as between panels S-58 and S-59. CQA has notified ESI that the wrinkles will need to be removed prior to placement of geocomposite.

- 6.0 <u>Drainage Gravel</u> CQA observed TWS hauling 2.108 tons of Type A drainage gravel to site. The gravel was stockpiled to the southeast of Cell 10.
- 7.0 <u>Leachate Transmission Pipe</u> CQA observed BMWC completing installation and conducting a hydraulic pressure test on the inner pipe and an air tests on the outer pipe between MH-38 and MH-39. CQA verified that both the inner and outer pipes met pressure testing specifications. Each joint of the outer pipe was snooped, and CQA verified that no leaks were observed at the joints.

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PAGE 3 OF 3





| Project ID: | 01-0032 ERDF Cells 9-10 Construction. | | Report Number: | 5-16-124 |
|----------------|--|---------------|----------------|--------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Tuesday, August 3, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Clear: Hi: 94°F Lo: 61°F |
| | The state of the s | | | Wind: 21-mph |

| | Fiel | D NOTEBOOKS | |
|---------------------|--------------|-----------------------|----------------|
| Joe Voss Book 2 | Pages: 19-20 | Tyler Williams Book 2 | Pages: 136-137 |
| Lucas Hay Book 2 | Pages: 86-87 | James Schut Book 1 | Pages: 107-109 |
| Ryan Swenson Book 1 | Page: 22 | | |

| | FIELD TESTING | | |
|---|--|------------------|------------------------------------|
| Submittal 5-18E Belt Scale Measurements | August 3, 2010 | 4,387 Tons | Passed |
| Submittal 5-18J Cell 10:Admix Testing | Lifts: 2, 3, 4, 5, and 6 | SL-883 to SL-905 | Passed |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 2 – Cell 10 North Slope Grid C9 | SL-808 | Perm: On-going |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 4 – Cell 10 North Slope Grid A10 | SL-828 | Penn: On-going |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 6 – Cell 10 North Slope Grid B6 | SL-890 | Sample Collected Perm: On-going |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 6 - Cell 10 South Floor Grid 110 | SL-894 | Sample Collected Perm: On-going |

| A PORTO DE LA CONTRACTOR DE LA CONTRACTO | CQA HOLD POI | NTS | | |
|--|----------------|-----|------------|-------------|
| Submittal 5-18R-069 Cell 10 Admix | August 3, 2010 | - | Panels: S- | -13 to S-27 |

| | LABORATORY TEST | TING |
|------------------------------|-----------------|------------------------------------|
| 5-18D Admix Soil Testing | AM-29 | Perm: Passed Proctor: Completed |
| 5-18D Admix Soil Testing | AM-30 | USCS: Passed |
| 5-18D Admix Soil Testing | AM-31 | USCS: On-going |
| 5-18D Admix Soil Testing | AM-32 | Sample Collected USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-13 | Perm and USCS: On-going |
| 5-18K Type C Drainage Gravel | DG-C-01 | Perm and USCS: On-going |

GENERAL ACTIVITIES

- 1.0 Cell 9 Sump Repair -TWS is continuing to pump the storm water from the Cell 9 sump.
- 2.0 Weekly Progress Meetings CQA attended the construction contractor's weekly progress meeting on Tuesday, August 3, 2010 at 10:00 am. in the WCH conference room.
- 3.0 CQA Progress Meeting CQA attended the construction contractors CQA meeting on Tuesday, August 3, 2010 at 10:30 am. in the WCH conference room.





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-124 |
|----------------|--------------------------------------|---------------|----------------|--|
| Job Number: | S013213A00 | Staff On-site | Date: | Tuesday, August 3, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Clear: Hi: 94°F Lo: 61°F Wind: 21-mph |

GENERAL ACTIVITIES

4.0 <u>DOE Oversight</u> – Harry Moomey representing DOE oversight, met with CQA and observed CQA admix placement and testing procedures.

CONSTRUCTION ACTIVITIES

- 1.0 Excavation CQA observed TWS excavating the ramp and east end of the Cell 10 floor with the CAT 330C excavator. The soil was loaded into payhaulers and stockpiled in the north east corner of Cell 10. CQA then observed a CAT D6 GPS dozer grading a new entrance into Cell 10.
- 2.0 Cell 10 Lysimeter TWS placed drainage gravel into the Cell 10 sump. Gravel was loaded into payhaulers, which drove over subgrade material. The rock was placed into the Cell 10 sump, where it was spread with a CAT 312 excavator aided by the TWS surveyor.
- 3.0 Admix Production TWS produced a total of 4,387 tons of admix material on Tuesday, August 3, 2010. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications.
- 4.0 Admix Placement CQA observed TWS using two CAT D6 GPS dozers to place admix mainly on the west side of the north berm of the Cell 10 with some additional admix placed near the center of the Cell 10 floor. CQA observed TWS using two (2) CAT 825 sheepsfoot compactors to compact the admix. CQA tested and verified that each lift placed was properly moisture condition, compacted and that the lift met the contract specifications. The final lift of admix was cut to grade with a D6 GPS dozer and rolled with a CAT 563 smooth drum roller. Please refer to Submittal 5-18J Admix Field Data for lift completion data for all grids.
 - During the day, TWS moisture conditioned and maintained the finished admix surface. At the end of the day all unfinished admix was back dragged with the blade on the CAT D6 dozer to seal the admix.
- 5.0 <u>Secondary Geomembrane</u> CQA observed ESI deploying secondary geomembrane panels S-13 to S-27 over accepted admix subgrade on the south slope and floor of Cell 10. The panels were deployed from the south anchor trench down the south embankment. A rub sheet was utilized at the shoulder of the admix slope to minimize erosion. After the sheets were deployed, two fusion welders seamed the secondary geomembrane together.
 - In, addition, large wrinkles have developed on the secondary geomembrane on the north berm of Cell 9 between panels S-47 and S-51 as well as between panels S-58 and S-59. CQA has notified ESI that the wrinkles will need to be removed prior to placement of geocomposite.
- 6.0 Primary Geomembrane CQA observed ESI conducting air pressure testing and repairs on the deployed geomembrane in Cell 9. CQA verified that all pressure tests met project specifications.
- 7.0 <u>Drainage Gravel</u> CQA observed TWS hauling 1,938 tons of Type A drainage gravel to site. The gravel was stockpiled to the southeast of Cell 10. CQA also observed TWS hauling 368 tons of type C drainage gravel to site. The gravel was stockpiled to the north of Cell 10.

ENVIROTECH-CQA

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M1 Page 209 of 376

PAGE 2 OF 2





| Project ID: | 01-0032 ERDF Cells 9-10 C | onstruction | Report Number: | 5-16-125 |
|----------------|---------------------------|---------------|----------------|---------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Wednesday, August 4, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Clear: Hi: 95°F Lo: 67°F |
| *** | | | | Wind: 21-mph |

| FIELD NOTEBOOKS | | | | | | |
|---------------------|--------------|-----------------------|----------------|--|--|--|
| Joe Voss Book 2 | Pages: 21-22 | Tyler Williams Book 2 | Pages: 138-140 | | | |
| Lucas Hay Book 2 | Pages: 89-91 | James Schut Book 1 | Pages: 110-112 | | | |
| Ryan Swenson Book 1 | Pages: 23 | | | | | |

| ATTENDED TO THE TOTAL OF THE TO | FIELD TESTING | | |
|--|--|------------------|----------------|
| Submittal 5-18L Cell 10 Lysimeter Rock | Lifts: 2 | CG10-01 | Passed |
| Submittal 5-18E Belt Scale Measurements | August 4, 2010 | 3.102 Tons | Passed |
| Submittal 5-18J Cell 10:Admix Testing | Lifts: 1, 4, 5, and 6 | SL-906 to SL-919 | Passed |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 2 – Cell 10 North Slope Grid C9 | SL-808 | Perm: Passed |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 4 - Cell 10 North Slope Grid A10 | SL-828 | Perm: Passed |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 6 – Cell 10 North Slope Grid B6 | SL-890 | Perm: On-going |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 6 - Cell 10 South Floor Grid 110 | SL-894 | Perm: On-going |

| | CQA HOLD POINTS | |
|--------------------------------------|-----------------|------------------------|
| Submittal 5-18R-070 Cell 10 Subgrade | August 4, 2010 | Grids: E8, E9, and E10 |
| Submittal 5-18R-071 Cell 9 Primary | August 4, 2010 | Panels: P-42 |
| Subgrade | | |

| | LABORATORY TES | TING |
|------------------------------|----------------|-------------------------|
| 5-18D Admix Soil Testing | AM-31 | USCS: Passed |
| 5-18D Admix Soil Testing | AM-32 | USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-13 | Perm and USCS: On-going |
| 5-18K Type C Drainage Gravel | DG-C-01 | Perm and USCS: On-going |

GENERAL ACTIVITIES

1.0 Cell 9 Sump Repair – TWS is continuing to pump the storm water from the Cell 9 sump. Dave Enin with EPA and Owen Roberts with DOE were on-site to survey the damage to the Cell 9 sump and discuss repair details. ESI is cutting holes in the secondary geomembrane in the Cell 9 sump to release the trapped water under the Cell 9 secondary geomembrane. Near the middle of the day. TWS decided to leister a patch over the exposed area in secondary panel S-59.





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-125 |
|----------------|--------------------------------------|---------------|----------------|--|
| Job Number: | S013213A00 | Staff On-site | Date: | Wednesday, August 4, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Clear: Hi: 95°F Lo: 67°F Wind: 21-mph |

CONSTRUCTION ACTIVITIES

- 1.0 <u>Subgrade</u> CQA observed TWS moisture conditioning and compacting the admix subgrade with the CAT 563 roller prior to admix placement.
- 2.0 Cell 10 Lysimeter TWS placed drainage gravel into the Cell 10 sump. Gravel was loaded into payhaulers, which drove over subgrade material. The rock was placed into the Cell 10 sump, where it was spread with a CAT 312 excavator aided by the TWS surveyor. After grading was complete, TWS loaded the excess material into payhaulers and removed the rock from Cell 10. TWS compacted the gravel in the sump by track-walking the excavator over the sump area. CQA tested and verified that the Cell 10 lysimeter sump gravel met compaction specifications.
- 3.0 Admix Production TWS produced a total of 3,102 tons of admix material on Wednesday, August 4, 2010. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications.
- 4.0 Admix Placement CQA observed TWS using two CAT D6 GPS dozers to place admix mainly on the center of the Cell 10 floor. CQA observed TWS using two (2) CAT 825 sheepsfoot compactors to compact the admix. CQA tested and verified that each lift placed was properly moisture conditioned, compacted and that the lift met the contract specifications. The final lift of admix was cut to grade with a D6 GPS dozer and rolled with a CAT 563 smooth drum roller. Please refer to Submittal 5-18J Admix Field Data for lift completion data for all grids.
 - During the day, TWS moisture conditioned and maintained the finished admix surface. At the end of the day all unfinished admix was back dragged with the blade on the CAT D6 dozer to seal the admix.
- 5.0 Secondary Geomembrane CQA observed ESI cutting open panel intersection S-59/S-60/S-50, which was in the Cell 9 flow line to the sump. The admix underneath was allowed to dry. After the admix had dried, the surface was repaired and the geomembrane patched.
 - In, addition, large wrinkles have developed on the secondary geomembrane on the north berm of Cell 9 between panels S-47 and S-51 as well as between panels S-58 and S-59. CQA has notified ESI that the wrinkles will need to be removed prior to placement of geocomposite.
- 6.0 <u>Primary Geomembrane</u> CQA observed ESI cleaning the primary tie-in on the Cell 9 floor and north embankment. After the tie-in was cleaned, CQA observed ESI welding a portion of the primary tie-in.
 - CQA also observed ESI deploying and welding panel P-42 on the floor of Cell 9. The panel was deployed east to west. After the panel was in-place, CQA observed ESI double wedge fusion welding panel P-42 to P-41.
- 7.0 <u>Drainage Gravel</u> CQA observed TWS hauling 2,074 tons of Type A drainage gravel to site. The gravel was stockpiled to the southeast of Cell 10. CQA also observed TWS hauling 165 tons of type C drainage gravel to site. The gravel was stockpiled to the north of Cell 10.
- 8.0 <u>Leachate Transmission Pipe</u> CQA observed BMWC installing the double containment pipe between manholes MH-34 and MH-35.

ENVIROTECH-CQA

DATE

M1 Page 211 of 376

PAGE 2 OF 2





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-126 |
|----------------|-------------------------|---------------|----------------|--------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Thursday, August 5, 2010 |
| Contractor(s): | TradeWind Services | 7 | Weather: | Clear: Hi: 98°F Lo: 70°F |
| | no concentration | | ar rannonplak | Wind: 26-mph |

| | FIEL | D NOTEBOOKS | |
|---------------------|--------------|-----------------------|----------------|
| Joe Voss Book 2 | Pages: 23-24 | Tyler Williams Book 2 | Pages: 141-143 |
| Lucas Hay Book 2 | Pages: 92-93 | James Schut Book 1 | Pages: 114-116 |
| Ryan Swenson Book I | Pages: 24-25 | | |

| | FIELD TESTING | | |
|--|--|------------------|--------------|
| Submittal 5-18B Leachate Transmission Line MH-34 to MH-35 | Lift: I | LT-131 to LT-133 | Passed |
| Submittal 5-18E Belt Scale Measurements | August 5, 2010 | 5.311 Tons | Passed |
| Submittal 5-18J Cell 10:Admix Testing | Lifts: 1, 2, 3, and 6 | SL-920 to SL-928 | Passed |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 6 – Cell 10 North Slope Grid B6 | SL-890 | Perm: Passed |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 6 – Cell 10 South Floor Grid 110 | SL-894 | Perm: Passed |

| CQA HOLD POINTS | | | | | |
|--------------------------------------|----------------|----------------------|--|--|--|
| Submittal 5-18R-073 Cell 10 Subgrade | August 5, 2010 | Grids: D8 | | | |
| Submittal 5-18R-074 Cell 10 Admix | August 5, 2010 | Panels: S-28 To S-34 | | | |

| LABORATORY TESTING | | | | | |
|------------------------------|---------|---|--|--|--|
| 5-18D Admix Soil Testing | AM-32 | USCS: Passed | | | |
| 5-18D Admix Soil Testing | AM-33 | Sample Collected USCS, Proctor, Perm: On-going | | | |
| 5-18K Type A Drainage Gravel | DG-A-13 | Perm and USCS: On-going | | | |
| 5-18K Type A Drainage Gravel | DG-A-14 | Sample Collected Perm and USCS: On-going | | | |
| 5-18K Type C Drainage Gravel | DG-C-01 | Perm and USCS: On-going | | | |

GENERAL ACTIVITIES

- 1.0 Cell 9 Sump Repair ESI cut and removed or pealed back the secondary geomembrane in the Cell 9 sump to expose the underlying admix material. The geomembrane was cut on the floor of Cell 9 up to the sump, but not in the sump. In addition, ESI cut and pealed back an entry corridor from the east end of the secondary geomembrane to the sump to allow for equipment access.
- 2.0 Stop Work A stop work was called on geomembrane welding activities at 14:00 when temperatures 12-in over the geomembrane rose over 105 degrees Fahrenheit.





| Project ID: | 01-0032 ERDF Cells 9-10 |) Construction | Report Number: | 5-16-126 |
|----------------|-------------------------|----------------|----------------|--------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Thursday, August 5, 2010 |
| Contractor(s): | TradeWind Services | 7 | Weather: | Clear: Hi: 98°F Lo: 70°F |
| | | | | Wind: 26-mph |

CONSTRUCTION ACTIVITIES

- 1.0 <u>Subgrade</u> CQA observed TWS moisture conditioning and compacting the admix subgrade with the CAT 563 roller prior to admix placement. The CQA surveyors were on-site to complete the admix subgrade survey.
- 2.0 <u>Cell 10 Lysimeter</u> The CQA surveyor was on-site to survey the Cell 10 lysimeter drainage gravel. CQA verified that the gravel met design drawing specifications.

After the survey was completed, CQA observed ESI placing and sewing the 8 oz. geotextile over the Cell 10 lysimeter as per design drawings.

- 3.0 Admix Production TWS produced a total of 5,311 tons of admix material on Thursday, August 5, 2010. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications.
- 4.0 Admix Placement CQA observed TWS using two CAT D6 GPS dozers to place admix mainly on the center of the Cell 10 floor with additional admix placed in the Cell 10 sump. CQA observed TWS using two (2) CAT 825 sheepsfoot compactors to compact the admix. CQA tested and verified that each lift placed was properly moisture condition, compacted and that the lift met the contract specifications. The final lift of admix was cut to grade with a D6 GPS dozer and rolled with a CAT 563 smooth drum roller. Please refer to Submittal 5-18J Admix Field Data for lift completion data for all grids.

During the day, TWS moisture conditioned and maintained the finished admix surface. At the end of the day all unfinished admix was back dragged with the blade on the CAT D6 dozer to seal the admix.

5.0 Secondary Geomembrane – ESI left Cell 9 secondary panels rolled up on the grade break between Cells 9 and 10. CQA witnessed ESI deploying those panels across Cell 10. All panels were renumbered to correspond with Cell 10 secondary panel numbers. CQA observed ESI placing short panels S-28 to S-34 west to east across Cell 10 along the intersection of the north-south panels deployed down the south berm and floor. After the panels were deployed, CQA witnessed ESI double wedge welding the secondary geomembrane together.

CQA also observed ESI conducting repairs and air pressure testing on the secondary geomembrane deployed on the Cell 10 slope. In addition, CQA observed ESI conducting vacuum testing on the secondary geomembrane.

In, addition, large wrinkles have developed on the secondary geomembrane on the north berm of Cell 9 between panels S-47 and S-51 as well as between panels S-58 and S-59. CQA has notified ESI that the wrinkles will need to be removed prior to placement of geocomposite.

Stratton Survey was on-site to perform the secondary seam survey.

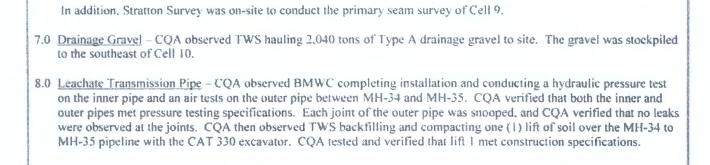




| Project ID: | 01-0032 ERDF Cells 9-1 | O Construction | Report Number: | 5-16-126 |
|---|------------------------|----------------|----------------|--------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Thursday, August 5, 2010 |
| Contractor(s): | TradeWind Services | 7 | Weather: | Clear: Hi: 98°F Lo: 70°F |
| *************************************** | | | | Wind: 26-mph |

CONSTRUCTION ACTIVITIES

6.0 Primary Geomembrane - CQA observed ESI conducting vacuum testing on the primary geomembrane.



8/10/10





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-127 |
|----------------|--------------------------------------|---------------|----------------|--------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Friday, August 6, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Clear: Hi: 98°F Lo: 64°F |
| 11 R | 100 | | | Wind: 33-mph |

| FIELD NOTEBOOKS | | | | | |
|---------------------|-----------|-----------------------|----------------|--|--|
| Joe Voss Book 2 | Pages: 25 | Tyler Williams Book 2 | Pages: 144-147 | | |
| Lucas Hay Book 2 | Pages: 94 | James Schut Book 1 | Pages: 118-122 | | |
| Ryan Swenson Book I | Pages: 26 | | | | |

| AND THE PROPERTY OF THE PROPER | FIELD TESTING | | |
|--|-------------------|------------------|--------|
| Submittal 5-18B Leachate Transmission Line MH-38 to MH-39 | Lift: 1 | LT-134 | Passed |
| Submittal 5-18E Belt Scale Measurements | August 6, 2010 | 5.540 Tons | Passed |
| Submittal 5-18J Cell 10:Admix Testing | Lifts: L 2, and 4 | SL-929 to SL-943 | Passed |

| CQA HOLD POINTS | | | | | |
|--------------------------------------|----------------|-----------------------|--|--|--|
| Submittal 5-18R-075 Cell 10 Subgrade | August 6, 2010 | Grids: A8, B8, and C8 | | | |
| Submittal 5-18R-076 Cell 10 Admix | August 6, 2010 | Panels: S-35 To S-55 | | | |

| LABORATORY TESTING | | | | |
|------------------------------|---------|-------------------------------|--|--|
| 5-18D Admix Soil Testing | AM-33 | USCS, Proctor, Perm: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-13 | Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-14 | Perm and USCS: On-going | | |
| 5-18K Type C Drainage Gravel | DG-C-01 | Perm and USCS: On-going | | |

GENERAL ACTIVITIES

1.0 Cell 9 Sump Repair -CQA observed TWS utilizing the CAT 312 excavator to remove the Type B drainage gravel from the Cell 9 secondary sump. Approximately ¾ of the gravel in the sump was removed from the east side and center of the Cell 9 sump and stockpiled on the west side of the sump. As the gravel was removed, the underlying geosynthetic was removed in order to expose the admix surface. The underlying admix surface was saturated with water; therefore, TWS laborers removed the excess water. The admix was left exposed to dry overnight.





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-127 |
|----------------|--------------------------------------|---------------|----------------|--------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Friday, August 6, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Clear: Hi: 98°F Lo: 64°F |
| | Andrew Ass | | Proposition of | Wind: 33-mph |

CONSTRUCTION ACTIVITIES

- 1.0 <u>Subgrade</u> CQA observed TWS moisture conditioning and compacting the admix subgrade with the CAT 563 roller prior to admix placement.
- 2.0 <u>Admix Production</u> TWS produced a total of 5,540 tons of admix material on Friday, August 6, 2010. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications.
- 3.0 Admix Placement CQA observed TWS using two CAT D6 GPS dozers to place admix on the north-berm and floor of Cell 10. CQA observed TWS using two (2) CAT 825 sheepsfoot compactors to compact the admix. CQA tested and verified that each lift placed was properly moisture conditioned, compacted and that the lift met the contract specifications. The final lift of admix was cut to grade with a D6 GPS dozer and rolled with a CAT 563 smooth drum roller. Please refer to Submittal 5-18J Admix Field Data for lift completion data for all grids.

During the day, TWS moisture conditioned and maintained the finished admix surface. At the end of the day all unfinished admix was back dragged with the blade on the CAT D6 dozer to seal the admix.

4.0 Secondary Geomembrane – ESI left Cell 9 secondary panels rolled up on the grade break between Cells 9 and 10. CQA witnessed ESI deploying those panels across Cell 10. All panels were renumbered to correspond with Cell 10 secondary panel numbers. CQA observed ESI placing short panels S-35 to S-55 west to east across Cell 10 along the intersection of the north-south panels deployed down the south berm and floor. After the panels were deployed, CQA witnessed ESI double wedge welding the secondary geomembrane together.

CQA also observed ESI conducting air pressure testing on the secondary geomembrane deployed on in Cell 10.

In, addition, large wrinkles have developed on the secondary geomembrane on the north berm of Cell 9 between panels S-47 and S-51 as well as between panels S-58 and S-59. CQA has notified ESI that the wrinkles will need to be removed prior to placement of geocomposite.

- 5.0 <u>Drainage Gravel</u> CQA observed TWS hauling 2,108 tons of Type A drainage gravel to site. The gravel was stockpiled to the southeast of Cell 10.
- 6.0 <u>Leachate Transmission Pipe</u> –CQA observed TWS backfilling and compacting one (1) lift of soil over the MH-38 to MH-39 pipeline with the CAT 330 excavator. CQA tested and verified that lift 1 met construction specifications.

ENVIROTECH - CQA

DATE

PAGE 2 OF 2





| Project ID: | 01-0032 ERDF Cells 9-10 |) Construction | Report Number: | 5-16-128 |
|----------------|--|----------------|----------------|--------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Saturday, August 7, 2010 |
| Contractor(s): | TradeWind Services | 3 | Weather: | Clear: Hi: 92°F Lo: 65°F |
| | The state of the s | | | Wind: 28-mph |

| ACADO DAME | FIELD NOTEBOOKS | | | | |
|------------|--------------------|----------------|-----------------------|----------------|--|
| - Total | James Schut Book 1 | Pages: 118-122 | Tyler Williams Book 2 | Pages: 148-149 | |

| FIELD TESTING | | | | |
|--|--|------------------|------------------------------------|--|
| Submittal 5-18E Belt Scale Measurements | August 7, 2010 | 4.008 Tons | Passed | |
| Submittal 5-18J Cell 9:Admix Testing (Repair) | Lifts: 6 | SL-944 to SL-945 | Passed | |
| Submittal 5-18J Cell 10:Admix Testing | Lifts: 2, 3, 5, and 6 | SL-946 to SL-959 | Passed | |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 3 – Cell 10 North Slope Grid A8-West | SL-957 | Sample Collected Perm: On-going | |

| | CQA HOLD POIN | TS |
|-----------------------------|----------------------|----------------------|
| Submittal 5-18R-077 Cell 10 | Admix August 7, 2010 | Panels: S-67 To S-72 |

| | LABORATORY TEST | TING * |
|------------------------------|-----------------|-------------------------------|
| 5-18D Admix Soil Testing | AM-33 | USCS, Proctor, Perm: On-going |
| 5-18K Type A Drainage Gravel | DG-A-13 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-14 | Perm and USCS: On-going |
| 5-18K Type C Drainage Gravel | DG-C-01 | Perm and USCS: On-going |

GENERAL ACTIVITIES

1.0 Cell 9 Sump Repair -CQA observed TWS and ESI restoring the Cell 9 sump. The admix surface dried overnight to an unsaturated condition, with small pockets of saturated admix. CQA witnessed TWS regrading the admix surface with hand tools. CQA then observed TWS utilizing the double smooth drum roller to finish and seal the entire exposed admix surface. CQA tested and verified that the repaired admix met construction specifications. See Submittal 5-18J for more information. Stratton Survey was on-site to verify that the admix surface was built as per the design drawings.

CQA observed ESI deploying five (5) Cell 9 secondary geomembrane panels, S-67 thru S-72, in the Cell 9 sump. The first panel was deployed under the Cell 9 riser pipes along with the secondary geocomposite. The subsequent panels were placed to the east and west of panel S-67. The panels were fusion welded together with the double wedge welder. A large triangular group of panels were removed when the Cell 9 floor was opened up for drying. CQA witnessed ESI double wedge welding the panel back into the same location. In addition, CQA observed ESI conducting repairs to the deployed secondary geomembrane as necessary. After the welding and repairs were completed, CQA witnessed ESI performing air and vacuum testing on the deployed secondary geomembrane.





| Project 1D: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-128 |
|----------------|-------------------------|---------------|--|--------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Saturday, August 7, 2010 |
| Contractor(s): | TradeWind Services | 2 | Weather: | Clear: Hi: 92°F Lo: 65°F |
| | | | The second of th | Wind: 28-mph |

CONSTRUCTION ACTIVITIES

- 1.0 Admix Production TWS produced a total of 4,008 tons of admix material on Saturday, August 7, 2010. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications.
- 2.0 Admix Placement CQA observed TWS using two CAT D6 GPS dozers to place admix on the north berm, sump, and floor of Cell 10. CQA observed TWS using two (2) CAT 825 sheepsfoot compactors to compact the admix. CQA tested and verified that each lift placed was properly moisture condition, compacted and that the lift met the contract specifications. The final lift of admix was cut to grade with a D6 GPS dozer and rolled with a CAT 563 smooth drum roller. Please refer to Submittal 5-18J Admix Field Data for lift completion data for all grids.

During the day, TWS moisture conditioned and maintained the finished admix surface. At the end of the day all unfinished admix was back dragged with the blade on the CAT D6 dozer to seal the admix.

ENVIROTECH - CQA

8/12/10

ATE M1 Page 218 of 376

PAGE 2 OF 2





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-129 |
|----------------|--|---------------|----------------|--------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Monday, August 9, 2010 |
| Contractor(s): | TradeWind Services | 7 | Weather: | Clear: Hi: 90°F Lo: 62°F |
| | and the state of t | | | Wind: 40-mph |

| FIELD NOTEBOOKS | | | | |
|---------------------|--------------|-----------------------|----------------|--|
| Joe Voss Book 2 | Pages: 26-27 | Tyler Williams Book 2 | Pages: 150-152 | |
| Lucas Hay Book 2 | Pages: 95-96 | James Schut Book 1 | Pages: 126-129 | |
| Ryan Swenson Book 1 | Pages: 27-28 | | | |

| | FIELD TESTING | | |
|--|--|------------------|----------------|
| Submittal 5-18B Leachate Transmission Line MH-34 to MH-35 | Lift; 2-3 | LT-135 to LT-140 | Passed |
| Submittal 5-18B Leachate Transmission Line MH-38 to MH-39 | Lift: 2-3 | LT-141 to LT-142 | Passed |
| Submittal 5-18E Belt Scale Measurements | August 9, 2010 | 4,029 Tons | Passed |
| Submittal 5-18J Cell 10:Admix Testing | Lifts: 3, 4, 5, and 6 | SL-960 to SL-975 | Passed |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 3 – Cell 10 North Slope Grid A8-West | SL-957 | Perm: On-going |

| CQA HOLD POINTS | | | | |
|-----------------------------------|----------------|--------------|--|--|
| Submittal 5-18R-078 Cell 10 Admix | August 9, 2010 | Panels: S-56 | | |

| LABORATORY TESTING | | |
|------------------------------|---------|--|
| 5-18D Admix Soil Testing | AM-33 | USCS, Proctor, Perm: On-going |
| 5-18D Admix Soil Testing | AM-34 | Sample Collected USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-13 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-14 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-15 | Sample Collected Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-16 | Sample Collected Perm and USCS: On-going |
| 5-18K Type C Drainage Gravel | DG-C-01 | Perm and USCS: On-going |





| Project ID: | 01-0032 ERDF Cells 9- | 10 Construction | Report Number: | 5-16-129 |
|----------------|--|-----------------|----------------|--------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Monday, August 9, 2010 |
| Contractor(s): | TradeWind Services | 7 | Weather: | Clear: Hi: 90°F Lo: 62°F |
| | de representation de la constant de | | | Wind: 40-mph |

GENERAL ACTIVITIES

1.0 Cell 9 Sump Repair – CQA observed ESI completing the repairs to the secondary geomembrane in Cell 9. CQA witnessed ESI completing air and vacuum testing on the secondary geomembrane repair in Cell 9. In addition, the CQA surveyors completed a survey of the repair area.

After the testing and survey was complete, CQA observed ESI placing two (2) new rolls of secondary geocomposite into the Cell 9 sump. The secondary geocomposite on the Cell 9 floor was redeployed over the floor secondary geomembrane panels. CQA verified that the geocomposite panels on the floor were intact and undamaged. After the rolls were deployed, ESI joined all the geocomposite rolls together and CQA verified that all geocomposite rolls were joined together as per construction specifications. CQA also witnessed ESI leistering 8 oz. geotextile over the butt seams as per construction specifications.

After the geocomposite was placed into the Cell 9 sump. TWS replaced the Type B drainage gravel in the Cell 9 sump with the CAT 312 excavator aided by the TWS surveyor. The Type B drainage gravel was spread from the stockpile on the west side of the sump east across the sump. The CQA surveyor was on-site to verify that the gravel met the design drawings. Subsequent to the removal of the CAT 312 excavator from Cell 9, the access road was compacted with the double smooth drum roller, and the secondary geomembrane replaced and repaired.

CONSTRUCTION ACTIVITIES

- 1.0 Admix Production TWS produced a total of 4,029 tons of admix material on Monday, August 9, 2010. Only one bentonite silo was operational, TWS is demobilizing the east bentonite silo. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications.
- 2.0 Admix Placement CQA observed TWS using two CAT D6 GPS dozers to place admix on the north berm and floor of Cell 10. CQA observed TWS using two (2) CAT 825 sheepsfoot compactors to compact the admix. CQA tested and verified that each lift placed was properly moisture conditioned, compacted and that the lift met the contract specifications. The final lift of admix was cut to grade with a D6 GPS dozer and rolled with a CAT 563 smooth drum roller. Please refer to Submittal 5-18J Admix Field Data for lift completion data for all grids.

During the day, TWS moisture conditioned and maintained the finished admix surface. At the end of the day all unfinished admix was back dragged with the blade on the CAT D6 dozer to seal the admix.

The CQA surveyor, Stratton Survey, was on-site to verify the admix thickness in Cell 10.





| Project ID: | 01-0032 ERDF Cells 9-10 | O Construction | Report Number: | 5-16-129 |
|----------------|--|----------------|----------------|--------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Monday, August 9, 2010 |
| Contractor(s): | TradeWind Services | 7 | Weather: | Clear: Hi: 90°F Lo: 62°F |
| | operation of the state of the s | | | Wind: 40-mph |

CONSTRUCTION ACTIVITIES

3.0 Secondary Geomembrane – CQA observed ESI deploying panel S-56 in grid 16. After the panels were deployed, CQA witnessed ESI double wedge welding the secondary geomembrane together. ESI performed repairs on panel S-56 and conduced air and pressure testing on panel S-56. This area is to be utilized as the gravel ramp area into Cells 9 and 10. A portion of panel S-56 was placed over the edge of the admix liner and draped down to the admix subgrade. Panel S-56 shall be removed at a later date.

In, addition, large wrinkles have developed on the secondary geomembrane on the north berm of Cell 9 between panels S-47 and S-51 as well as between panels S-58 and S-59. CQA has notified ESI that the wrinkles will need to be removed prior to placement of geocomposite.

The CQA surveyor. Stratton Survey, was on-site to conduct the secondary seam survey in Cells 9 and 10.

- 4.0 <u>Primary Geomembrane</u> The CQA surveyor, Stratton Survey, was on-site to conduct the primary seam survey in Cells 9 and 10.
- 5.0 <u>Drainage Gravel</u> CQA observed TWS hauling 2,074 tons of Type A drainage gravel to site. The gravel was stockpiled to the southeast of Cell 10.
- 6.0 <u>Leachate Transmission Pipe</u> -CQA observed TWS backfilling and compacting two (2) lifts of soil over the MH-34 to MH-35 pipeline and the MH-38 to MH-39 pipeline with the CAT 330 excavator and a jumping jack hand compactor. CQA tested and verified that backfill lifts 2-3 over MH-34 to MH-35 pipeline and backfill lifts 2-3 over MH-38 to MH-39 pipeline met construction specifications.

ENVIROTECH-CQA

8/12/10

M1 Page 221 of 376

PAGE 3 OF 3





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-130 |
|----------------|-------------------------|---------------|----------------|---|
| Job Number: | S013213A00 | Staff On-site | Date: | Tuesday, August 10, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Cloudy: Hi: 82°F Lo: 57°F Wind: 20-mph |

| | FIEL | D NOTEBOOKS | |
|---------------------|--------------|-----------------------|----------------|
| Joe Voss Book 2 | Pages: 28-29 | Tyler Williams Book 2 | Pages: 153-158 |
| Lucas Hay Book 2 | Page: 97 | James Schut Book 1 | Pages: 130-134 |
| Ryan Swenson Book 1 | Page: 29 | | |

| | FIELD TESTING | | |
|--|--|------------------|------------------------------------|
| Submittal 5-18B Leachate Transmission Line MH-34 to MH-35 | Lift: 4-5 | LT-143 to LT-148 | Passed |
| Submittal 5-18E Belt Scale Measurements | August 10, 2010 | 3.643 Tons | Passed |
| Submittal 5-18J Cell 10:Admix Testing | Lifts: 1, 2, 3, 4, and 6 | SL-976 to SL-995 | Passed |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 3 – Cell 10 North Slope Grid A8-West | SL-957 | Perm: On-going |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 3 - Cell 10 Sump Grid D8 | SL-995 | Sample Collected Perm: On-going |

| | CQA HOLD POINTS | |
|--------------------------------------|-----------------|-----------------------|
| Submittal 5-18R-079 Cell 10 Subgrade | August 10, 2010 | Grids: E8, F8, and G8 |
| Submittal 5-18R-080 Cell 9 Admix | August 10, 2010 | Panels: S-73 to S-77 |
| Submittal 5-18R-081 Cell 10 Primary | August 10, 2010 | Panels: P-1 to P-7 |
| Subgrade | siğu veranan | - |

| | LABORATORY TES | TING |
|------------------------------|----------------|--|
| 5-18D Admix Soil Testing | AM-33 | USCS, Proctor: Completed Perm: On-going |
| 5-18D Admix Soil Testing | AM-34 | USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-13 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-14 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-15 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-16 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-17 | Sample Collected Perm and USCS: On-going |
| 5-18K Type C Drainage Gravel | DG-C-02 | Perm and USCS: On-going |





| Project ID: | 01-0032 ERDF Cells 9-10 |) Construction | Report Number: | 5-16-130 |
|----------------|-------------------------|----------------|----------------|---------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Tuesday, August 10, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Cloudy: Hi: 82°F Lo: 57°F |
| | - management | | | Wind: 20-mph |

GENERAL ACTIVITIES

- 1.0 Cell 9 Sump Repair CQA witnessed ESI deploying Cell 9 secondary geomembrane seams \$-73 to S-75 to the east of the Cell 9 sump. After the panels were placed, CQA witnessed ESI fusion welding the panels together. CQA also observed ESI performing extrusion repairs to the secondary geomembrane as needed.
- 2.0 Weekly Progress Meetings CQA attended the construction contractor's weekly progress meeting on Tuesday, August 10, 2010 at 10:00 am. in the meeting trailer.
- 3.0 Beryllium Training CQA attended the Harford worker training presentation on Beryllium exposure at 6:00 in the Meeting trailer.

CONSTRUCTION ACTIVITIES

- 1.0 Admix Production TWS produced a total of 3,643 tons of admix material on Tuesday, August 10, 2010. TWS has completed admix production activities. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications.
- 2.0 Admix Placement CQA observed TWS using two CAT D6 GPS dozers to place admix on the north berm and floor of Cell 10. CQA observed TWS using two (2) CAT 825 sheepsfoot compactors to compact the admix. CQA tested and verified that each lift placed was properly moisture conditioned, compacted and that the lift met the contract specifications. The final lift of admix was cut to grade with a D6 GPS dozer and rolled with a CAT 563 smooth drum roller. Please refer to Submittal 5-18J Admix Field Data for lift completion data for all grids.
 - During the day, TWS moisture conditioned and maintained the finished admix surface. At the end of the day all unfinished admix was back dragged with the blade on the CAT D6 dozer to seal the admix.
- 3.0 Secondary Geomembrane CQA observed ESI deploying secondary geomembrane panels S-76 to S-77 over accepted admix subgrade on the north slope and floor of Cell 9. The panels were deployed from the north anchor trench down the north embankment. A rub sheet was utilized at the shoulder of the admix slope to minimize erosion. After the sheets were deployed, two fusion welders seamed the secondary geomembrane together.
 - Large wrinkles have developed on the secondary geomembrane on the north berm of Cell 9 between panels S-47 and S-51 as well as between panels S-58 and S-59. CQA has notified ESI that the wrinkles will need to be removed prior to placement of geocomposite.
- 4.0 <u>Secondary Geocomposite</u> CQA observed ESI deploying two (2) panels of geocomposite in grid 16. CQA witnessed ESI joining the panels as per construction specifications. The geotextile flaps were sewn together and the ends leistered with 8 oz. geotextile.





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-130 |
|----------------|-------------------------|---------------|----------------|---------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Tuesday, August 10, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Cloudy: Hi: 82°F Lo: 57°F |
| | | | 1 | Wind: 20-mph |

CONSTRUCTION ACTIVITIES

- 5.0 Primary Geomembrane CQA observed ESI deploying primary panels P-1 to P-7 in grid 16. This area is to be utilized as the gravel ramp area into Cells 9 and 10. After the panels were deployed, CQA witnessed ESI double wedge welding the secondary geomembrane together. ESI performed repairs on panels P-1 to P-7 and conduced air and pressure testing on panel S-56.
- 6.0 <u>Drainage Gravel</u> CQA observed TWS hauling 2,339 tons of Type A drainage gravel to site. The gravel was stockpiled to the southeast of Cell 10.
- 7.0 <u>Leachate Transmission Pipe</u> -CQA observed TWS backfilling and compacting two (2) lifts of soil over the MH-34 to MH-35 pipeline with the CAT 330 excavator and a the CAT 563 smooth drum roller. CQA tested and verified that backfill lifts 4-5 over MH-34 to MH-35 pipeline met construction specifications.

In addition, CQA observed BMWC installing the 16x10-in double containment line between manholes MH-38 and M-9.

ENVIROTECH-CQA

PATE DATE

M1 Page 224 of 376

PAGE 3 OF 3





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-131 |
|----------------|-------------------------|---------------|----------------|----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Wednesday, August 11, 2010 |
| Contractor(s): | TradeWind Services | 7 | Weather: | Cloudy: Hi: 88°F Lo: 61°F |
| | | | | Wind: 23-mph |

| | FIEL | D NOTEBOOKS | 100000 |
|---------------------|--------------|-----------------------|----------------|
| Joe Voss Book 2 | Pages: 30-32 | Tyler Williams Book 2 | Pages: 156-159 |
| Lucas Hay Book 2 | Page: 98-99 | James Schut Book I | Pages: 135-137 |
| Ryan Swenson Book 1 | Page: 30-31 | | |

| FIELD TESTING | | | | | | |
|--|--|-------------------|----------------|--|--|--|
| Submittal 5-18B Leachate Transmission Line MH-34 to MH-35 | Lift: 6-7 | LT-149 to LT-154 | Passed | | | |
| Submittal 5-18B Leachate Transmission Line MH-38 to MH-39 | Lift: 4 | LT-155 | Passed | | | |
| Submittal 5-18J Cell 10:Admix Testing | Lifts: 4, 5, and 6 | SL-996 to SL-1004 | Passed | | | |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 3 – Cell 10 North Slope Grid A8-West | SL-957 | Perm: On-going | | | |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 3 – Cell 10 Sump Grid D8 | SL-995 | Perm: On-going | | | |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 4 – Cell 10 North Floor Grid F8 | SL-998 | Perm: On-going | | | |

| | LABORATORY TES | TING |
|------------------------------|----------------|-------------------------|
| 5-18D Admix Soil Testing | AM-33 | Perm: On-going |
| 5-18D Admix Soil Testing | AM-34 | · USCS: Passed |
| 5-18K Type A Drainage Gravel | DG-A-13 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-14 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-15 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-16 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-17 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-18 | Sample Collected |
| | | Perm and USCS: On-going |
| 5-18K Type C Drainage Gravel | DG-C-02 | Perm and USCS: On-going |

GENERAL ACTIVITIES

1.0 Cell 9 Sump Repair – CQA observed ESI air pressure testing panels S-73 to S-75. CQA also witnessed ESI performing vacuum testing on the repairs to the secondary geomembrane. CQA certifies that the Cell 9 sump repair has been completed and all installed materials meet contract specifications.





| Project ID: | 01-0032 ERDF Cells 9-10 |) Construction | Report Number: | 5-16-131 |
|----------------|-------------------------|----------------|----------------|----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Wednesday, August 11, 2010 |
| Contractor(s): | TradeWind Services | 7 | Weather: | Cloudy: Hi: 88°F Lo: 61°F |
| | apara ir soo | | | Wind: 23-mph |

GENERAL ACTIVITIES

2.0 Cell 10 Rut Repair — CQA discovered a rut underneath the primary geomembrane approximately 1-½ to 2-în in height in the proposed location of the gravel haul road. Upon investigation, it was decided to remove the rut. ESI cut open the geosynthetics, and repaired the rut with hand tools. The rut was laid flat and CQA witnessed ESI repairing the geosynthetics. The patch was extrusion welded to the secondary geomembrane, and vacuum tested. The secondary geomembrane was joined as per the composite repair section of the construction specifications. The primary geomembrane was patched, extrusion welded, and vacuum tested. CQA certifies that the repair was conducted as per construction specifications.

CONSTRUCTION ACTIVITIES

1.0 Admix Placement - CQA observed TWS using two CAT D6 GPS dozers to place admix on the floor of Cell 10 south of the Cell 10 sump. CQA observed TWS using two (2) CAT 825 sheepsfoot compactors to compact the admix. CQA tested and verified that each lift placed was properly moisture condition, compacted and that the lift met the contract specifications. The final lift of admix was cut to grade with a D6 GPS dozer and rolled with a CAT 563 smooth drum roller. Please refer to Submittal 5-18J Admix Field Data for lift completion data for all grids.

During the day, TWS moisture conditioned and maintained the finished admix surface. At the end of the day all unfinished admix was back dragged with the blade on the CAT D6 dozer to seal the admix.

CQA surveyors were on-site to capture admix thickness on the north half of Cell 10 admix.

2.0 <u>Secondary Geomembrane</u> - Large wrinkles have developed on the secondary geomembrane on the north berm of Cell 9 between panels S-47 and S-51 as well as between panels S-58 and S-59. CQA has notified ESI that the wrinkles will need to be removed prior to placement of geocomposite.

The CQA surveyors were on-site to perform the secondary seam survey in Cell 9 and 10.

3.0 Primary Geomembrane - CQA observed ESI performing repairs to the Cell 10 primary panels P-1 to P-7. In addition, CQA witnessed ESI air testing Cell 10 primary seams P-1 to P-7 and vacuum testing the repair locations.

The CQA surveyors were on-site to perform the primary seam survey in Cells 9 and 10.

4.0 Primary Geotextile – CQA observed ESI deploying sixteen (16) rolls of 16 oz. geotextile over the Cell 9 primary geomembrane and two (2) rolls of 16 oz. over the Cell 10 primary geomembrane. The geotextile was deployed from the center of Cell 9 south, toward the south slope. All deployed geotextile was double wedge welded together. CQA certifies that the 16 oz. geotextile was deployed as per construction specifications.





| Project ID: | 01-0032 ERDF Cells 9-10 |) Construction | Report Number: | 5-16-131 |
|----------------|-------------------------|----------------|--|----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Wednesday, August 11, 2010 |
| Contractor(s): | TradeWind Services | 7 | Weather: | Cloudy: Hi: 88°F Lo: 61°F |
| | | | 9 10 10 10 10 10 10 10 10 10 10 10 10 10 | Wind: 23-mph |

CONSTRUCTION ACTIVITIES

- 5.0 <u>Drainage Gravel</u> CQA observed TWS hauling 2,600 tons of Type A drainage gravel to site. The gravel was stockpiled to the southeast of Cell 10.
- 6.0 <u>Leachate Transmission Pipe</u> -CQA observed TWS backfilling and compacting two (2) lifts of soil over the MH-34 to MH-35 pipeline with the CAT 330 excavator and a the CAT 563 smooth drum roller. CQA tested and verified that backfill lifts 6-7 over MH-34 to MH-35 pipeline met construction specifications.

CQA also observed TWS backfilling and compacting one (1) lift of soil over the MH-38 to MH-39 pipeline with the CAT 330 excavator and a the CAT 563 smooth drum roller. CQA tested and verified that backfill lift 4 over MH-38 to MH-39 pipeline met construction specifications.

In addition, CQA observed BMWC installing the 16x10-in double containment line between manholes MH-38 and M-9.

CQA surveyors were on-site to as-build the pipe installation.

ENVIROTECH-CQA

B/co/co DATE

PAGE 3 OF 3





| Project ID: | 01-0032 ERDF Cells 9-10 |) Construction | Report Number: | 5-16-132 |
|----------------|-------------------------|----------------|----------------|---------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Thursday, August 12, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Clear: Hi: 100°F Lo: 58°F |
| | | | | Wind: 36-mph |

| | FIEL | D NOTEBOOKS | |
|---------------------|--------------|-----------------------|----------------|
| Joe Voss Book 2 | Pages: 33-35 | Tyler Williams Book 3 | Pages: 1-3 |
| Lucas Hay Book 2 | Page: 100 | James Schut Book 1 | Pages: 138-141 |
| Ryan Swenson Book 1 | Pages: 32-33 | | |

| | FIELD TESTING | | |
|--|--|--------------------|----------------|
| Submittal 5-18B Leachate Transmission Line MH-34 to MH-35 | Lift: 8 | LT-156 to LT-158 | Passed |
| Submittal 5-18J Cell 10:Admix Testing | Lifts: 5 and 6 | SL-1005 to SL-1006 | Passed |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 3 – Cell 10 North Slope Grid A8-West | SL-957 | Perm: On-going |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 3 – Cell 10 Sump Grid D8 | SL-995 | Perm: On-going |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 4 - Cell 10 North Floor Grid F8 | SL-998 | Penn: On-going |

| | LABORATORY TEST | TING |
|------------------------------|-----------------|--|
| 5-18D Admix Soil Testing | AM-33 | Perm: On-going |
| 5-18K Type A Drainage Gravel | DG-A-13 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-14 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-15 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-16 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-17 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-18 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-19 | Sample Collected Perm and USCS: On-going |
| 5-18K Type C Drainage Gravel | DG-C-02 | Perm and USCS: On-going |

GENERAL ACTIVITIES

1.0 Geocomposite Exposure – Secondary geocomposite on the west side of the Cell 9 floor has been exposed for 13 days. Since the secondary geocomposite will not be covered by primary geomembrane prior to 14 days of exposure, ESI chose to expose the alternative side of the geocomposite. CQA observed ESI removing the ties on every other panel of secondary geocomposite exposed in Cell 9. Every other panel of geocomposite was then flipped over and placed over the neighboring panel of geocomposite; thereby, exposing the geotextile on the underside of the geocomposite. As the alternative side of the geotextile has been exposed, ESI has 14 days to cover the remaining geocomposite.





| Project ID: | 01-0032 ERDF Cells 9-10 |) Construction | Report Number: | 5-16-132 |
|----------------|-------------------------|----------------|----------------|--|
| Job Number: | S013213A00 | Staff On-site | Date: | Thursday, August 12, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Cloudy: Hi: 100°F Lo: 58°F Wind: 36-mph |

CONSTRUCTION ACTIVITIES

- 1.0 Admix Placement CQA observed TWS using one CAT D6 GPS dozers to place admix on the floor of Cell 10 south of the Cell 10 sump. CQA observed TWS using one (1) CAT 825 sheepsfoot compactors to compact the admix. CQA tested and verified that each lift placed was properly moisture condition, compacted and that the lift met the contract specifications. The final lift of admix was cut to grade with a D6 GPS dozer and rolled with a CAT 563 smooth drum roller. Please refer to Submittal 5-18J Admix Field Data for lift completion data for all grids.
 - During the day, TWS moisture conditioned and maintained the finished admix surface. At the end of the day all unfinished admix was back dragged with the blade on the CAT D6 dozer to seal the admix. In addition, TWS began grading in the Cell 10 admix sump with the CAT 312 excavator aided by the TWS surveyor.
- 2.0 Secondary Geomembrane CQA observed ESI performing extrusion repairs to the secondary geomembrane in Cell 10. In addition, large wrinkles have developed on the secondary geomembrane on the north berm of Cell 9 between panels S-47 and S-51 as well as between panels S-58 and S-59. CQA has notified ESI that the wrinkles will need to be removed prior to placement of geocomposite.
- 3.0 <u>Primary Geomembrane</u> CQA observed ESI conducting vacuum testing to the primary geomembrane in Cell 9. CQA verified that all vacuum tests met contract specifications.
- 4.0 Primary Geotextile CQA observed ESI deploying twenty (20) rolls of 16 oz. geotextile over the Cell 9 primary geomembrane. The geotextile was deployed from the center of Cell 9 south, toward the south slope. All deployed geotextile was double wedge welded together. CQA certifies that the 16 oz. geotextile was deployed as per construction specifications.
- 5.0 Primary Drainage Gravel CQA observed TWS constructing a gravel entrance ramp in Cell 10. The ramp was constructed in grid cell 16, where the primary geomembrane was placed over the admix slope and onto the Cell 10 subgrade (See Report 5-16-131). CQA witnessed ESI placing scrap geocomposite over the primary geomembrane that will be wasted when the ramp is removed. TWS placed operations soil over the geocomposite, utilizing a CAT D6 LGP dozer to construct a ramp from the Cell 10 subgrade to 7-ft above of the primary geomembrane. After the soil road was in-place, CQA observed TWS hauling drainage gravel to Cell 10 floor, up the gravel access ramp, and unloading the gravel onto the haul road. The gravel on the road was stockpiled at the end of the road by a CAT D6 LGP dozer. A CAT 325 excavator constructed a 7-ft high gravel haul road across Cell 9, spreading the gravel onto the Cell 9 floor as to trap the smaller wrinkles before the propagated into larger wrinkles. During the placement of drainage gravel, CQA continuously observed placement, and a TWS laborer was present to address any trapped wrinkles or other deficiencies.
- 6.0 <u>Drainage Gravel</u> CQA observed TWS hauling 2.031 tons of Type A drainage gravel to site. The gravel was stockpiled to the southeast of Cell 10.
- 7.0 <u>Leachate Transmission Pipe</u> –CQA observed TWS backfilling and compacting one (1) lift of soil over the MH-34 to MH-35 pipeline with the CAT 330 excavator and a the CAT 563 smooth drum roller. CQA tested and verified that lift 8 of the backfill placed between MH-34 to MH-35 pipeline met construction specifications.
- 8.0 Tank #3 CQA observed TWS pouring concrete for the tank #3 ringwall. IMT was on-site to perform concrete testing as per the contract specifications.

ENVIROTECH - CQA

DATE

8/2010





| Project ID: | 01-0032 ERDF Cells 9-10 |) Construction | Report Number: | 5-16-133 |
|----------------|-------------------------|----------------|----------------|---|
| Job Number: | S013213A00 | Staff On-site | Date: | Friday, August 13, 2010 |
| Contractor(s): | TradeWind Services | 7 | Weather: | Cloudy: Hi: 92°F Lo: 65°F Wind: 27-mph |

| | FIEL | D NOTEBOOKS | |
|---------------------|---------------|-----------------------|----------------|
| Joe Voss Book 2 | Pages: 36-37 | Tyler Williams Book 3 | Pages: 4-7 |
| Lucas Hay Book 2 | Page: 101-103 | James Schut Book 1 | Pages: 142-143 |
| Ryan Swenson Book 1 | Pages: 34-35 | | |

| | FIELD TESTING | | |
|--|--|------------------|-----------------|
| Submittal 5-18B Leachate Transmission Line MH-34 to MH-35 | Lift: 9 | LT-159 to LT-161 | Passed |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 3 – Cell 10 North Slope Grid A8-West | SL-957 | Perm: Completed |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 3 – Cell 10 Sump Grid D8 | SL-995 | Perm: On-going |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 4 – Cell 10 North Floor Grid F8 | SL-998 | Perm: On-going |

| LABORATORY TESTING | | | | |
|------------------------------|---------|-------------------------|--|--|
| 5-18D Admix Soil Testing | AM-33 | Perm: Passed | | |
| 5-18K Type A Drainage Gravel | DG-A-13 | Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-14 | Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-15 | Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-16 | Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-17 | Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-18 | Perm and USCS: On-going | | |
| 5-18K Type A Drainage Gravel | DG-A-19 | Perm and USCS: On-going | | |
| 5-18K Type C Drainage Gravel | DG-C-02 | Perm and USCS: On-going | | |

GENERAL ACTIVITIES

- 1.0 Weather ESI was preparing to deploy secondary geomembrane on the north slope of Cell 10, but safety issues stemming from high sustained winds halted liner deployment.
- 2.0 Secondary Geomembrane Wrinkles CQA has been tracking the wrinkles that developed on Cell 9 north slope secondary panels S-47 to S-51. ESI has divided and lessened the wrinkles by "walking" them out. ESI believes that the wrinkles are now within specification and will not fold over during operations placement. CQA noted that at the moment, the wrinkles were within specification, but if the wrinkles do not meet specifications during operations placement, all four layers will need to be cut and repaired. CQA contacted WCH and explained the quality concern to Bill Melvin.





| Project ID: | 01-0032 ERDF Cells 9-10 |) Construction | Report Number: | 5-16-133 |
|----------------|-------------------------|----------------|----------------|---|
| Job Number: | S013213A00 | Staff On-site | Date: | Friday, August 13, 2010 |
| Contractor(s): | TradeWind Services | 7 | Weather: | Cloudy: Hi: 92°F Lo: 65°F Wind: 27-mph |

CONSTRUCTION ACTIVITIES

1.0 Admix Placement – During the day, TWS moisture conditioned and maintained the finished admix surface. In addition, CQA observed TWS grading the Cell 10 admix sump and riser trench with the CAT 312 excavator aided by the TWS surveyor.

Stratton Surveying was on-site to as-built the admix on the north half of Cell 10.

2.0 <u>Secondary Geomembrane</u> -Large wrinkles have developed on the secondary geomembrane on the north berm of Cell 9 between panels S-58 and S-59. CQA has notified ESI that the wrinkles will need to be removed prior to placement of geocomposite.

Stratton Surveying was on-site to conduct the secondary seam survey.

3.0 Primary Geomembrane - CQA observed ESI performing repairs on the Cell 9 primary geomembrane.

Stratton Surveying was on-site to conduct the primary seam survey.

- 4.0 Primary Geotextile CQA observed ESI deploying nine (9) rolls of 16 oz. geotextile over the Cell 9 primary geomembrane. The geotextile was deployed from the center of Cell 9 north, toward the north slope. All deployed geotextile was double wedge welded together. CQA certifies that the 16 oz. geotextile was deployed as per construction specifications.
- 5.0 Primary Drainage Gravel CQA observed TWS hauling Type A drainage gravel from the stockpile northeast of Cell 10 in payhaulers to the Cell 10 floor. The payhaulers backed onto the 7-ft high gravel road, making no sudden movements or turns, and unloaded Type A gravel onto the haul road. The gravel was stockpiled at the end of the road by a CAT D6 LGP dozer. A CAT 325 excavator constructed a 7-ft high gravel haul road across Cell 9, spreading the gravel onto the Cell 9 floor as to trap the smaller wrinkles before the propagated into larger wrinkles. During the placement of Type A gravel, CQA continuously observed gravel placement, and a TWS laborer was present to address any trapped wrinkles or other deficiencies.
- 6.0 <u>Drainage Gravel</u> CQA observed TWS hauling 2,061 tons of Type A drainage gravel to site. The gravel was stockpiled to the southeast of Cell 10.
- 7.0 <u>Leachate Transmission Pipe</u> -CQA observed TWS backfilling and compacting one (1) lift of soil over the MH-34 to MH-35 pipeline with the CAT 330 excavator and a the CAT 563 smooth drum roller. CQA tested and verified that lift 9 of the backfill placed between MH-34 to MH-35 pipeline met construction specifications.

ENVIROTECH-CQA

DATE





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-134 |
|----------------|---|---------------|----------------|---------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Monday, August 16, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Clear: Hi: 101°F Lo: 64°F |
| | ата при | | | Wind: 15-mph |

| Joe Voss Book 2 | Pages: 38-40 | Tyler Williams Book 3 | Pages: 8-11 |
|-------------------|----------------|-----------------------|----------------|
| Lucas Hay Book 2 | Pages: 104-105 | James Schut Book I | Pages: 144-146 |
| Ryan Swenson Book | Page: 36 | | |

| | FIELD TESTING | | |
|--|---|------------------|----------------|
| Submittal 5-18B Leachate Transmission Line MH-34 to MH-35 | Lifts: 10-11 | LT-162 to LT-167 | Passed |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 3 – Cell 10 Sump Grid D8 | SL-995 | Perm: On-going |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 4 - Cell 10 North Floor Grid F8 | SL-998 | Perm: On-going |

| | CQA Hold Por | NTS |
|-----------------------------------|-----------------|----------------------|
| Submittal 5-18R-082 Cell 10 Admix | August 16, 2010 | Panels: S-57 to S-66 |

| | LABORATORY TES | TING |
|------------------------------|----------------|---|
| 5-18K Type A Drainage Gravel | DG-A-13 | Perm and USCS: Passed |
| 5-18K Type A Drainage Gravel | DG-A-14 | Perm and USCS: Passed |
| 5-18K Type A Drainage Gravel | DG-A-15 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-16 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-17 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-18 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-19 | Perm and USCS: On-going |
| 5-18K Type C Drainage Gravel | DG-C-02 | Perm: Passed USCS: Failed Gravel Passes (See General Activities) |

GENERAL ACTIVITIES

1.0 <u>Drainage Gravel</u> – Test DG-C-02 had 5% of fines pass through the No. 100 sieve, not meeting the construction specifications of 4% passing the No. 100 sieve. After reviewing the permeability results, Tim Wintel, WCH Project Engineer, approved the material for use in Cell construction.

CONSTRUCTION ACTIVITIES

2.0 Admix Placement - During the day, TWS moisture conditioned and maintained the finished admix surface.





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-134 | |
|----------------|---|---------------|----------------|---------------------------|--|
| Job Number: | S013213A00 | Staff On-site | Date: | Monday, August 16, 2010 | |
| Contractor(s): | TradeWind Services | 5 | Weather: | Clear: Hi: 101°F Lo: 64°F | |
| | *************************************** | | | Wind: 15-mph | |

CONSTRUCTION ACTIVITIES

- 3.0 Secondary Geomembrane CQA observed ESI deploying ten (10) panels of secondary geomembrane panels S-57 to S-66 over accepted admix subgrade on the north slope and floor of Cell 10. The panels were deployed from the north anchor trench down the north embankment. A rub sheet was utilized at the shoulder of the admix slope to minimize erosion. After the sheets were deployed, two fusion welders seamed the secondary geomembrane together.
- 4.0 Large wrinkles have developed on the secondary geomembrane on the north berm of Cell 9 between panels S-58 and S-59. CQA has notified ESI that the wrinkles will need to be removed prior to placement of geocomposite.
- 5.0 Primary Drainage Gravel TWS continued to place Type A gravel in Cells 9 and 10. TWS completed the southwest haul road running from grid 16 southwest to grid M1, and started the west haul road from grid 16 to grid 11.

CQA observed TWS hauling Type A drainage gravel from the stockpile northeast of Cell 10 in payhaulers to the Cell 10 floor. The payhaulers backed onto the 7-ft high gravel road, making no sudden movements or turns, and unloaded Type A gravel onto the haul road. The gravel was stockpiled at the end of the road by a CAT D6 LGP dozer. A CAT 325 excavator constructed a 7-ft high gravel haul road across Cell 9, spreading the gravel onto the Cell 9 floor as to trap the smaller wrinkles before the propagated into larger wrinkles. During the placement of Type A gravel, CQA continuously observed gravel placement, and a TWS laborer was present to address any trapped wrinkles or other deficiencies.

- 6.0 <u>Drainage Gravel</u> CQA observed TWS hauling Type A drainage gravel to site. The gravel was stockpiled to the southeast of Cell 10.
- 7.0 <u>Leachate Transmission Pipe</u> -CQA observed TWS backfilling and compacting two (2) lifts of soil over the MH-34 to MH-35 pipeline with the CAT 330 excavator and a the CAT 563 smooth drum roller. CQA tested and verified that lifts 10-11 of the backfill placed between MH-34 to MH-35 pipeline met construction specifications.

CQA also witnessed ESI pressure testing the discharge pipes for Cells 9 and 10. CQA verified that one (1) 3-in discharge line and one (1) 1 1/2-in discharge pipe met construction specifications.

ENVIROTECH-CQA

9/1/10 DATE

M1 Page 233 of 376





| Project ID: | 01-0032 ERDF Cells 9-10 |) Construction | Report Number: | 5-16-135 | |
|----------------|-------------------------|----------------|----------------|---|--|
| Job Number: | S013213A00 | Staff On-site | Date: | Tuesday, August 17, 2010 | |
| Contractor(s): | TradeWind Services | 4 | Weather: | Clear: Hi: 103°F Lo: 61°F Wind: 23-mph | |

| FIELD NOTEBOOKS | | | | |
|------------------|----------------|-----------------------|----------------|--|
| Joe Voss Book 2 | Pages: 41-42 | Tyler Williams Book 3 | Pages: 12-14 | |
| Lucas Hay Book 2 | Pages: 106~109 | James Schut Book I | Pages: 150-152 | |

| | FIELD TESTING | | |
|---|---|------------------|--------------|
| Submittal 5-18B Leachate Transmission Line MH-38 to MH-9 | Lifts: 1-2 | LT-168 to LT-169 | Passed |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 3 – Cell 10 Sump Grid D8 | SL-995 | Perm: Passed |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 4 Cell 10 North Floor Grid F8 | SL-998 | Perm: Passed |

| CQA HOLD POINTS | | | | | |
|-----------------------------------|-----------------|----------------------|--|--|--|
| Submittal 5-18R-083 Cell 10 Admix | August 17, 2010 | Panels: S-67 to S-68 | | | |

| | LABORATORY TES | TING | |
|------------------------------|----------------|-------------------------|----------|
| 5-18K Type A Drainage Gravel | DG-A-15 | Perm and USCS: On-going | |
| 5-18K Type A Drainage Gravel | DG-A-16 | Perm and USCS: On-going | |
| 5-18K Type A Drainage Gravel | DG-A-17 | Perm and USCS: On-going | |
| 5-18K Type A Drainage Gravel | DG-A-18 | Perm and USCS: On-going | |
| 5-18K Type A Drainage Gravel | DG-A-19 | Perm and USCS: On-going | |
| 5-18K Type A Drainage Gravel | DG-A-20 | Sample Collected | Contract |
| | | Perm and USCS: On-going | |

GENERAL ACTIVITIES

1.0 Weekly Progress Meetings - CQA attended the construction contractor's weekly progress meeting on Tuesday, August 10, 2010 at 10:00 am. in the meeting trailer.

CONSTRUCTION ACTIVITIES

1.0 Admix Placement - During the day. TWS moisture conditioned and maintained the finished admix surface.





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-135 |
|----------------|--------------------------------------|---------------|---|---------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Tuesday, August 17, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Clear: Hi: 103°F Lo: 61°F |
| | verzentódz | | 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - | Wind: 23-mph |

CONSTRUCTION ACTIVITIES

2.0 Secondary Geomembrane – CQA observed ESI deploying two (2) partial panels of secondary geomembrane panels S-67 to S-68 over accepted admix subgrade in the Cell 10 sump and riser trench. The panels were deployed from the north anchor trench down the north embankment. A rub sheet was utilized at the shoulder of the admix slope to minimize erosion. After the sheets were deployed, two fusion welders seamed the secondary geomembrane together. CQA also observed ESI performing repairs, conducting destructive and nondestructive testing on the deployed geomembrane in the Cell 10 sump and riser trench.

Large wrinkles have developed on the secondary geomembrane on the north berm of Cell 9 between panels S-58 and S-59. CQA has notified ESI that the wrinkles will need to be removed prior to placement of geocomposite.

- 3.0 Secondary Geocomposite Following secondary geomembrane deployment in the Cell 10 riser trench and sump, CQA observed ESI deploying four (4) rolls of secondary geocomposite in the Cell 10 riser trench and sump. CQA witnessed ESI joining the geocomposite together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together and leistering patches over the butt seains.
- 4.0 Primary Geotextile CQA observed ESI deploying six (6) rolls of primary 16 oz. geotextile in the north half of Cell 9. After the rolls were deployed, CQA observed ESI double wedge welding the panels together.
- 5.0 Primary Drainage Gravel TWS continued to place Type A gravel in Cells 9 and 10. TWS left the west haul road in grid 12, and began a northwest haul road running from grid 16 to grid E1.

CQA observed TWS hauling Type A drainage gravel from the stockpile southeast of Cell 10 in payhaulers to the Cell 10 floor. The payhaulers backed onto the 7-ft high gravel road, making no sudden movements or turns, and unloaded Type A gravel onto the haul road. The gravel was stockpiled at the end of the road by a CAT D6 LGP dozer. A CAT 325 excavator constructed a 7-ft high gravel haul road across Cell 9, spreading the gravel onto the Cell 9 floor as to trap the smaller wrinkles before the propagated into larger wrinkles. During the placement of Type A gravel, CQA continuously observed gravel placement, and a TWS laborer was present to address any trapped wrinkles or other deficiencies.

- 6.0 <u>Drainage Gravel</u> CQA observed TWS hauling Type A drainage gravel to site. The gravel was stockpiled to the southeast of Cell 10.
- 7.0 <u>Leachate Transmission Pipe</u> –CQA observed TWS backfilling and compacting two (2) lifts of soil over the MH-38 to MH-9 pipeline with the CAT 330 excavator and a the CAT 563 smooth drum roller. CQA tested and verified that lifts 1-2 of the backfill placed between MH-38 to MH-9 pipeline met construction specifications.

CQA also witnessed ESI pressure testing the discharge pipes for Cells 9 and 10. CQA verified that one (1) 3-in discharge pipe met construction specifications. One (1) 1 ½-in discharge pipe did not meet construction specifications. CQA shall retest at a later date.

ENYIROTECH - CQA

DATE

M1 Page 235 of 376





| -0032 ERDF Cells 9-10 Co | nstruction | Report Number: | 5-16-136 |
|--------------------------|---------------|----------------|---|
|)13213A00 | Staff On-site | Date: | Wednesday, August 18, 2010 |
| adeWind Services | 4 | Weather: | Cloudy: Hi: 83°F Lo: 59°F Wind: 17-mph |
|) | 13213A00 | 100101100 | 13213A00 Staff On-site Date: |

| FIELD NOTEBOOKS | | | | | | |
|------------------|----------------|-----------------------|----------------|--|--|--|
| Joe Voss Book 2 | Pages: 43-44 | Tyler Williams Book 3 | Pages: 14-16 | | | |
| Lucas Hay Book 2 | Pages: 110-111 | James Schut Book I | Pages: 150-152 | | | |

| | FIELD TESTING | | |
|---|--|------------------|--------------|
| Submittal 5-18B Leachate Transmission Line MH-38 to MH-9 | Lifts: 3-5 | LT-170 to LT-172 | Passed |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 4 - Cell 9 Sump Grid D3 | SL-455 | Perm: Passed |
| Submittal 5-18J Admix Field Testing Permeability | Lift No. 3 – Cell 9 North Slope Grid C3 | SL-475 | Perm: Passed |
| Submittal 5-18Q Cell 10 Secondary Riser | Lift: I | R10-1 | Passed |

| | LABORATORY TES | TING |
|------------------------------|----------------|-------------------------|
| 5-18K Type A Drainage Gravel | DG-A-15 | Perm and USCS: Passed |
| 5-18K Type A Drainage Gravel | DG-A-16 | Perm and USCS: Passed |
| 5-18K Type A Drainage Gravel | DG-A-17 | Perm and USCS: Failed |
| 5-18K Type A Drainage Gravel | DG-A-18 | Perm and USCS: Passed |
| 5-18K Type A Drainage Gravel | DG-A-19 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-A-20 | Perm and USCS: On-going |

GENERAL ACTIVITIES

- 1.0 Shelby Tubes Shelby Tubes SL-455 and SL-475 were not logged into the field testing log correctly. The tests were noted correctly in the field paperwork, but the tests were not placed into the daily field tracking. The samples were shipped, tested, and passed testing, but not reported. The error was caught during double checking of all admix paperwork, as such; the results are being reported with this report.
- 2.0 Failed Gravel Testing There was an error in the processing of sample DG-A-17 at some point between sampling and testing. As such, the test data indicated the gravel to be drastically different than what appears to be a consistent product. CQA shall resample DG-A-17 to verify gravel consistency.

CONSTRUCTION ACTIVITIES

1.0 Admix Placement - During the day, TWS moisture conditioned and maintained the finished admix surface.





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-136 |
|----------------|-------------------------|---------------|----------------|----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Wednesday, August 18, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Cloudy: Hi: 83°F Lo: 59°F |
| | | | | Wind: 17-mph |

CONSTRUCTION ACTIVITIES

- 2.0 Secondary Geomembrane CQA observed ESI performing repairs on Cell 10 secondary liner panels S-57 to S-66. In addition, ESI conducted destructive and non-destructive testing on the Cell 10 secondary liner panels S-57 to S-66. In addition, 40-ft of seam S4/S5 did not pass air pressure testing and will have to be capped.
 - Large wrinkles have developed on the secondary geomembrane on the north berm of Cell 9 between panels S-58 and S-59. CQA has notified ESI that the wrinkles will need to be removed prior to placement of geocomposite.
- 3.0 Secondary Geocomposite CQA observed ESI deploying one (1) partial panel of secondary geocomposite in the Cell 10 sump. CQA witnessed ESI joining the geocomposite together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together and leistering patches over the butt seams.
- 4.0 Secondary Leachate Collection Piping CQA observed BMWC aided by TWS placing the two secondary riser pipes into Cell 10. Both pipes were placed through the openings in the Cell 10 crest pad and walked down the slope with the aid of the CAT 312 excavator and laborers. After the riser pipes were in-place, CQA observed TWS backfilling over the pipes with the CAT 312 excavator. Backfill was placed into a large bucket with 2 wheels, and the CAT exactor place soil from the bucket into the trench over the pipes. The soil was compacted with a hoe-pack attached to the 312 excavator. CQA verified that lift 1 of the secondary riser trench in Cell 10 met compaction specifications.
- 5.0 Primary Geotextile CQA observed ESI deploying six (18) rolls of primary 16 oz, geotextile in Cell 9. After the rolls were deployed, CQA observed ESI double wedge welding the panels together.
- 6.0 Primary Drainage Gravel TWS continued to place Type A gravel in Cells 9 and 10. TWS continued placing the northwest haul road running from grid 16 to grid E1. Later in the day. TWS began placing gravel on the west haul road from grid 16 to grid 11.
 - CQA observed TWS hauling Type A drainage gravel from the stockpile southeast of Cell 10 in payhaulers to the Cell 10 floor. The payhaulers backed onto the 7-ft high gravel road, making no sudden movements or turns, and unloaded Type A gravel onto the haul road. The gravel was stockpiled at the end of the road by a CAT D6 LGP dozer. A CAT 325 excavator constructed a 7-ft high gravel haul road across Cell 9, spreading the gravel onto the Cell 9 floor as to trap the smaller wrinkles before the propagated into larger wrinkles. During the placement of Type A gravel, CQA continuously observed gravel placement, and a TWS laborer was present to address any trapped wrinkles or other deficiencies.
- 7.0 <u>Leachate Transmission Pipe</u> -CQA observed TWS backfilling and compacting three (3) lifts of soil over the MH-38 to MH-9 pipeline with the CAT 330 excavator and a the CAT 563 smooth drum roller. CQA tested and verified that lifts 3-5 of the backfill placed between MH-38 to MH-9 pipeline met construction specifications.

CQA also witnessed ESI pressure testing the discharge pipe for Cells 9 and 10. CQA verified that the failed 1 $\frac{1}{2}$ -in pipe that failed in Report 5-16-135met construction specifications.

ENVIROTECH - CQA

DATE

M1 Page 237 of 376





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-137 | |
|----------------|-------------------------|---------------|--|-----------|-------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Thursday | , August 19, 2010 |
| Contractor(s): | TradeWind Services | 6 | Weather: | Clear: Hi | : 95°F Lo: 59°F |
| | | | The second secon | Wind: 35 | -mph |

| | DODOTO NO NOTO CONTRACTO CONTRACTO DE SECUENCIA DE LA PERENTE DE SECUENCIA DE LA CONTRACTOR DE CONTRACTO | | |
|------------------|---|-----------------------|--------------|
| Joe Voss Book 2 | Pages: 45-46 | Tyler Williams Book 3 | Pages: 17-21 |
| Lucas Hay Book 2 | Pages: 112-113 | Ryan Swenson Book 1 | Pages: 37-38 |

| | | *************************************** | |
|---|-------|---|--------|
| FIELD TESTING | | | |
| Submittal 5-18Q Cell 10 Secondary Riser Lift: 2 | R10-2 | | Passed |

| | LABORATORY TEST | ING | |
|------------------------------|-----------------|-------------------------|--|
| 5-18K Type A Drainage Gravel | DG-A-19 | Perm and USCS: Passed | |
| 5-18K Type A Drainage Gravel | DG-A-20 | Perm and USCS: On-going | |
| 5-18K Type A Drainage Gravel | DG-C-02A | Sample Collected | |
| | | Perm and USCS: On-going | |

GENERAL ACTIVITIES

- 1.0 Geotextile and Geocomposite Exposure The geocomposite in the Cell 9 secondary riser trench has reached its 14 day exposure limit, and the geotextile in the Cell 9 secondary riser trench has passed its 14 day exposure limit by 8 days. Therefore, ESI has decided to cover the entire riser trench with a 20 mil rub sheet to prolong the UV exposure date.
 CQA has rejected the geotextile material in the Cell 9 riser trench; ESI shall remove the geotextile at a later date.
- 2.0 <u>DOE CQA Oversight</u> Harry Moomy part of the DOE CQA oversight effort was on-site to observe gravel placement in Cell 9.

CONSTRUCTION ACTIVITIES

- 1.0 Admix Placement During the day, TWS moisture conditioned and maintained the finished admix surface.
- 2.0 <u>Secondary Geomembrane</u> CQA observed ESI performing repairs on Cell 10 secondary liner panels S-57 to S-66. In addition, ESI conducted destructive and non-destructive testing on the Cell 10 secondary liner panels S-57 to S-66. In addition, 40-ft of seam S4/S5 did not pass air pressure testing and will be capped. ESI also welded a secondary pipe boot around the riser pipe penetrations in the north anchor trench of Cell 10.

Stratton Surveying, the CQA surveyor, was on-site to perform the secondary liner as-built survey in Cell 10.

Large wrinkles have developed on the secondary geomembrane on the north berm of Cell 9 between panels S-58 and S-59. CQA has notified ESI that the wrinkles will need to be removed prior to placement of geocomposite.





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-137 |
|----------------|--------------------------------------|---------------|----------------|---------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Thursday, August 19, 2010 |
| Contractor(s): | TradeWind Services | 6 | Weather: | Clear: Hi: 95°F Lo: 59°F |
| | | | | Wind: 35-mph |

CONSTRUCTION ACTIVITIES

- 3.0 Secondary Geocomposite CQA observed ESI deploying twenty-three (23) panels of secondary geocomposite on the north slope and north floor of Cell 9. CQA witnessed ESI joining the geocomposite together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together and leistering patches over the butt seams.
- 4.0 Secondary Leachate Collection Piping CQA observed TWS backfilling over the pipes with the CAT 312 excavator. Backfill was placed into a large bucket with 2 wheels, and the CAT exactor place soil from the bucket into the trench over the pipes. The soil was compacted with a hoe-pack attached to the 312 excavator. CQA verified that lift 2 of the secondary riser trench in Cell 10 met compaction specifications.

Stratton Survey was on-site to as-built survey the secondary riser pipes in Cell 10.

- 5.0 Primary Drainage Gravel TWS continued to place Type A gravel in Cells 9 and 10. TWS continued placing the west haul road running from grid 16 to grid 11. After TWS shut off gravel placement to the haul roads, CQA observed TWS utilizing two (2) CAT D6 LGP dozers to spread the stockpiled rock from the haul roads across Cell 9 in a 1-ft high lift. The gravel was compacted and track-walked concurrently with spreading operations.
 - CQA observed TWS hauling Type A drainage gravel from the stockpile southeast of Cell 10 in payhaulers to the Cell 10 floor. The payhaulers backed onto the 7-ft high gravel road, making no sudden movements or turns, and unloaded Type A gravel onto the haul road. The gravel was stockpiled at the end of the road by a CAT D6 LGP dozer. A CAT 325 excavator constructed a 7-ft high gravel haul road across Cell 9, spreading the gravel onto the Cell 9 floor as to trap the smaller wrinkles before the propagated into larger wrinkles. Mid-morning, the CAT 325 stopped gravel placement on the haul roads, and two (2) CAT D6 LGP dozers began to spread the haul road gravel across Cell 9 in a 1-ft high lift. The gravel was compacted and track-walked concurrently with spreading operations. During the placement of Type A gravel, CQA continuously observed gravel placement, and a TWS laborer was present to address any trapped wrinkles or other deficiencies.
- 6.0 Leachate Transmission Pipe CQA witnessed ESI pressure testing the discharge pipe for Cells 9 and 10. CQA verified that two (2) of the 1 ½-in pipes met construction specifications. CQA certifies that all leachate discharge pipe for Cells 9 and 10 meets construction specifications.
 - CQA observed TWS excavating the leachate transmission trench between MH-36 and MH-37. The trench was excavated with a CAT 325 excavator aided by two (2) payhauler trucks.
- 7.0 Anchor Trench CQA observed TWS excavating the anchor trench on the north berm between the riser trench and the eastern extents of Cell 10. TWS excavated the anchor trench with a CAT 325 excavator aided by two (2) payhauler trucks.

ENVIROTECH - CQA

DATE





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-138 |
|----------------|-------------------------|---------------|----------------|----------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Friday, August 20, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Partly Cloudy: Hi: 88°F Lo: 52°F |
| 100 | | | | Wind: 23-mph |

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|---|--------------|-----------------------|--------------|
| Joe Voss Book 2 | Pages: 47-48 | Tyler Williams Book 3 | Pages: 22-25 |
| Lucas Hay Book 2 | Page: 114 | Ryan Swenson Book | Page: 39 |

| CQA HOLD POINTS | | | | |
|-----------------------------------|-----------------|----------------------|--|--|
| Submittal 5-18R-084 Cell 10 Admix | August 20, 2010 | Panels: S-69 to S-82 | | |

| | LABORATORY TEST | TING |
|------------------------------|-----------------|-------------------------|
| 5-18K Type A Drainage Gravel | DG-A-20 | Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-C-02A | Perm and USCS: On-going |

GENERAL ACTIVITIES

1.0 Secondary Sump - ESI and TWS have decided to leave the admix exposed south of the Cell 10 secondary sump. In order to protect the sump over the weekend, ESI buried the leading edge of the secondary geomembrane in the admix material. In addition, TWS created temporary berm out of admix material in order to protect the Cell 10 sump from run-off storm water.

CONSTRUCTION ACTIVITIES

- 1.0 Admix Placement During the day, TWS moisture conditioned and maintained the finished admix surface.
- 2.0 Secondary Geomembrane CQA observed ESI deploying twelve (12) panels of secondary geomembrane panels S-69 to S-82 over accepted admix subgrade on the north slope and floor of Cell 10. The panels were deployed from the north anchor trench down the north embankment. A rub sheet was utilized at the shoulder of the admix slope to minimize erosion. After the sheets were deployed, two fusion welders seamed the secondary geomembrane together.

CQA also observed ESI performing repairs and conducting vacuum testing in the Cell 10 secondary sump.

Large wrinkles have developed on the secondary geomembrane on the north berm of Cell 9 between panels S-58 and S-59. CQA has notified ESI that the wrinkles will need to be removed prior to placement of geocomposite.

3.0 Secondary Leachate Collection Piping – CQA observed ESI placing and leistering one (1) panel of 16 oz. geotextile over the Cell 10 secondary riser trench backfill.





| Project ID: | 01-0032 ERDF Cells 9-10 |) Construction | Report Number: | 5-16-138 |
|----------------|-------------------------|----------------|----------------|----------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Friday, August 20, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Partly Cloudy: Hi: 88°F Lo: 52°F |
| man constant | ner and a second | | | Wind: 23-mph |

CONSTRUCTION ACTIVITIES

4.0 Secondary Sump – CQA observed TWS placing Type B drainage gravel into the Cell 10 sump. TWS hauled the gravel in international payhaulers from the stockpile east of Cell 10 to the Cell 10 sump. The payhaulers accessed the sump by driving directly north from the subgrade haul road, over the admix surface, and to the Cell 10 sump. The gravel was placed into the sump where it was spread with a CAT 312 excavator aided by the TWS surveyor.

During the transportation of the drainage gravel, several large ruts resulting from the international payhaulers. The ruts were knocked flat and leveled with the CAT 312 excavator. TWS still requires additional Type B drainage gravel in the Cell 10 sump and will repair the admix after hauling operations are complete.

- 5.0 Primary Drainage Gravel TWS continued to place Type A gravel in Cells 9. TWS utilized two (2) CAT D6 LGP dozers to spread the haul road gravel across Cell 9 in a 1-ft high lift. The gravel was compacted and track-walked concurrently with spreading operations. During the placement of Type A gravel, CQA continuously observed gravel placement, and a TWS laborer was present to address any trapped wrinkles or other deficiencies.
- 6.0 <u>Leachate Transmission Pipe</u> CQA observed TWS excavating the leachate transmission trench between MH-36 and MH-37. The trench was excavated with a CAT 325 excavator aided by two (2) payhauler trucks.

| FNI | /IR | OT | ECH | COA | |
|---------|-----|-------|-------------|-----|--|
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| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-139 |
|----------------|-------------------------|---------------|----------------|----------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Monday, August 23, 2010 |
| Contractor(s): | TradeWind Services | 7 | Weather: | Partly Cloudy: Hi: 87°F Lo: 54°F |
| | occoporate | | | Wind: 16-mph |

| | Fieli | D NOTEBOOKS | |
|---------------------|----------------|-----------------------|--------------|
| Joe Voss Book 2 | Pages: 49-51 | Tyler Williams Book 3 | Pages: 26-28 |
| Lucas Hay Book 2 | Pages: 115-116 | James Schut Book 2 | Page: I |
| Ryan Swenson Book 1 | Page: 40 | | |

| | CQA HOLD POR | NTS |
|-----------------------------------|-----------------|----------------------|
| Submittal 5-18R-085 Cell 10 Admix | August 23, 2010 | Panels: S-83 to S-84 |

| | LABORATORY TEST | TING |
|------------------------------|-----------------|--|
| 5-18K Type A Drainage Gravel | DG-A-20 | Perm: Passed USCS: Failed (Passed by WCH) |
| 5-18K Type A Drainage Gravel | DG-A-17A | Sample Collected Perm and USCS: On-going |
| 5-18K Type A Drainage Gravel | DG-C-02A | Perm and USCS: Passed |

GENERAL ACTIVITIES

1.0 <u>Drainage Gravel Testing</u> – Drainage gravel sample DG-A-20 failed to meet sieve specifications on the ¾ inch sieve. After review of the testing and permeability by the WCH engineer, it was determined that the rock sample met project specifications.

CONSTRUCTION ACTIVITIES

1.0 Admix Placement - CQA observed TWS performing repairs to the admix liner south of the Cell 10 sump where the International Payhaulers accessed the Cell 10 sump. TWS intentionally left the admix in the haul area overbuilt. CQA witnessed TWS moisture conditioned the exposed admix south of the Cell 10 floor and sheepfoot the admix with the CAT 825 compactor. TWS then clipped the admix to grade with the CAT D6 dozer. After the dozer had trimmed the surface back to grade, CQA witnessed that the ruts from the payhaulers and the pegs from the compactors did not penetrate past the overbuilt admix. The admix surface was finished with a CAT CS 563 smooth drum roller.

The CQA surveyor was on-site to verify the admix thickness of the repair area.

2.0 Secondary Geomembrane – CQA observed ESI deploying two (2) panels of secondary geomembrane panels S-83 to S-84 over accepted admix subgrade on the floor of Cell 10 south of the sump. After the sheets were deployed, two fusion welders seamed the secondary geomembrane together.

CQA also observed ESI performing repairs and conducting non-destructive testing in the Cell 10 secondary geomembrane. In addition, ESI cut destructs in the deployed secondary geomembrane.





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-139 |
|----------------|--|---------------|----------------|------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Monday, August 23, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Partly Cloudy: Hi: °F Lo: °F |
| | en de la companya de | | | Wind: -mph |

CONSTRUCTION ACTIVITIES

- 3.0 <u>Secondary Geomembrane (Continued)</u> Large wrinkles have developed on the secondary geomembrane on the north berm of Cell 9 between panels S-58 and S-59. CQA has notified ESI that the wrinkles will need to be removed prior to placement of geocomposite.
- 4.0 Secondary Sump CQA observed TWS placing and grading Type B drainage gravel into the Cell 10 sump. TWS hauled the gravel in international payhaulers from the stockpile east of Cell 10 to the Cell 10 sump. The payhaulers accessed the sump by driving directly north from the subgrade haul road, over the admix surface, and to the Cell 10 sump. The gravel was placed into the sump where it was spread with a CAT 312 excavator aided by the TWS surveyor.

The CQA surveyor was on-site to verify the thickness of the secondary sump rock.

During the transportation of the drainage gravel, several large ruts resulting from the international payhaulers. The ruts were repaired during the admix repair (see 1.0 Admix Placement)

5.0 <u>Secondary Geocomposite</u> – CQA observed ESI deploying secondary geocomposite on the Cell 9 slope and floor. CQA witnessed ESI joining the geocomposite together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together and leistering patches over the butt seams.

In addition, CQA observed ESI flipping back over the geocomposite on the Cell 9 floor that had been flipped over due to UV exposure in Report 5-16-132. After the geocomposite was realigned, CQA observed E\$I joining the geocomposite together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together and leistering patches over the butt seams.

After the geocomposite was deployed, CQA observed TWS spreading secondary drainage gravel from Cell 8 over the top of the secondary geocomposite in Cell 9 as per design drawings. After CQA verified that the tie-in was built as per design drawings, the rock was encapsulated in a 16 oz. geotextile

The CQA surveyor was on-site to conduct the secondary geomembrane seam survey.

- 6.0 Primary Drainage Gravel TWS continued to place Type A gravel in Cells 9. TWS utilized two (2) CAT D6 LGP dozers to spread the haul road gravel across Cell 9 in a 1-ft high lift. The gravel was compacted and track-walked concurrently with spreading operations. During the placement of Type A gravel, CQA continuously observed gravel placement, and a TWS laborer was present to address any trapped wrinkles or other deficiencies.
- 7.0 <u>Leachate Transmission Pipe</u> CQA observed TWS excavating the leachate transmission trench between MH-36 and MH-37. The trench was excavated with a CAT 325 excavator aided by two (2) payhauler trucks.

ENVIROTECH - CQA

DATE

ATE M1 Page 243 of 376





| Project ID: | 01-0032 ERDF Cells 9-10 |) Construction | Report Number: | 5-16-140 |
|----------------|-------------------------|----------------|----------------|--------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Tuesday, August 24, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Clear: Hi 90°F Lo: 54°F |
| | | | | Wind: 20-mph |

| FIELD NOTEBOOKS | | | | | |
|------------------|----------------|-----------------------|--------------|--|--|
| Joe Voss Book 2 | Pages: 52-54 | Tyler Williams Book 3 | Pages: 28-29 | | |
| Lucas Hay Book 2 | Pages: 117-120 | James Schut Book 2 | Page: 2-3 | | |

| FIELD TESTING | | | | |
|---|------------|----------------|--------|--|
| Submittal 5-18B Tank #3 Ringwall Backfill | Lifts: 1-3 | T3-05 to T3-10 | Passed | |

| CQA HOLD POINTS | | | | | |
|------------------------------------|-----------------|----------------------|--|--|--|
| Submittal 5-18R-086 Cell 9 Primary | August 24, 2010 | Panels: P-43 to P-50 | | | |
| Subgrade | **** | | | | |

| LABORATORY TESTING | | | | |
|------------------------------|----------|-------------------------|--|--|
| 5-18K Type A Drainage Gravel | DG-A-17A | Perm and USCS: On-going | | |

GENERAL ACTIVITIES

- 1.0 Weekly Progress Meeting CQA attended the construction subcontractor's weekly progress meeting on Tuesday, August 24, 2010 at 10:00 am. in the meeting trailer.
- 2.0 <u>CQA Weekly Progress Meeting</u> CQA attended the CQA subcontractor's weekly progress meeting on Tuesday, August 24, 2010 at 10:15 am in the meeting trailer.
- 3.0 EPA and DOE Visit Owen Robertson and Dave Einan were on-site to inspect the construction project.

CONSTRUCTION ACTIVITIES

- 1.0 Secondary Geomembrane CQA continues to track the large wrinkles have developed on the secondary geomembrane on the north berm of Cell 9 between panels S-58 and S-59. CQA has notified ESI that the wrinkles will need to be removed prior to placement of geocomposite.
- 2.0 Secondary Geocomposite CQA observed ESI joining the geocomposite rolls deployed yesterday, Monday, August 23, 2010. After the geocomposite was joined, CQA observed TWS spreading secondary drainage gravel from Cell 8 over the top of the secondary geocomposite in Cell 9 as per design drawings. After CQA verified that the tie-in was built as per design drawings, the rock was encapsulated in a 16 oz. geotextile.





| Project ID: | 01-0032 ERDF Cells 9-1 |) Construction | Report Number: | 5-16-140 |
|----------------|------------------------|----------------|----------------|--------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Tuesday, August 24, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Clear: Hi: 90°F Lo: 54°F |
| | | | | Wind: 20-mph |

CONSTRUCTION ACTIVITIES

3.0 Primary Geomembrane - CQA observed ESI deploying eight (8) panels of 60 mil primary geomembrane on the north slope and floor of Cell 9. The panels were deployed north to south from the Cell 8/9 tie-in east toward the Cell 9 riser trench. A rub sheet was placed over the secondary geocomposite. The panels were deployed from the top of the north berm and walked down the slope by the laborers. A track bobcat was used to pull the panels across the cell floor and but the ends of the panels next to the previously deployed primary geomembrane.

After the panels were deployed, CQA observed ESI utilizing three (3) double wedge welders to weld all panels together.

- 4.0 Primary Drainage Gravel TWS continued to place Type A gravel in Cells 9. TWS utilized two (2) CAT D6 LGP dozers to spread the haul road gravel across Cell 9 in a 1-ft high lift. The gravel was compacted and track-walked concurrently with spreading operations. During the placement of Type A gravel, CQA continuously observed gravel placement, and a TWS laborer was present to address any trapped wrinkles or other deficiencies. At the end of the day, drainage gravel had been placed over the entire CQA approved area for primary gravel placement.
- 5.0 <u>Leachate Transmission Pipe</u> CQA observed TWS excavating the leachate transmission trench between MH-36 and MH-37. The trench was excavated with a CAT 325 excavator aided by two (2) payhauler trucks. After the trench was completed, BMWC placed the 16x10-in double containment pipe in the trench. BMWC filled the inner pipe with water in preparation for testing on Wednesday, August 25, 2010.
- 6.0 Tank #3 CQA observed TWS placing three (3) lifts of backfill around the Tank #3 ringwall. TWS utilized the CAT 312 excavator to place soil in 6-in lifts around the ringwall, and a water truck to moisture condition the fill. CQA witnessed TWS utilizing two (2) jumping jack hand compactors to compact the backfill next to the ringwall. CQA tested and verified that lifts 1-3 met compaction specifications.

ENVIROTECH-CQA

DATE

M1 Page 245 of 376





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-141 |
|----------------|-------------------------|---------------|----------------|----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Wednesday, August 25, 2010 |
| Contractor(s): | TradeWind Services | 3 | Weather: | Clear: Hi: 97°F Lo: 58°F |
| | Operation reserved. | | | Wind: 13-mph |

| FIELD NOTEBOOKS | | | | |
|--------------------|----------------|-----------------------|--------------|--|
| Lucas Hay Book 2 | Pages: 121-122 | Tyler Williams Book 3 | Pages: 30-32 | |
| James Schut Book 2 | Pages: 4-5 | | | |

| FIELD TESTING | | | | | |
|---|----------------|--|--------|--|--|
| Submittal 5-18B Tank #3 Ringwall Backfill | Lifts: 4-6 | T3-11 to T3-16 | Passed | | |
| Submittal 5-18B Tank #3 Leachate | Lift: 1 | LT-173 to LT-175 | Passed | | |
| Transmission MH-36 to MH-37 | and the second | The state of the s | 90000 | | |

| LABORATORY TESTING | | | | |
|------------------------------|----------|-------------------------|--|--|
| 5-18K Type A Drainage Gravel | DG-A-17A | Perm and USCS: On-going | | |

GENERAL ACTIVITIES

1.0 <u>DOE Oversight</u> – Harry Moomey, DOE CQA Oversight, was on-site to observe the GPR activities on the Cell 9 primary drainage gravel.

CONSTRUCTION ACTIVITIES

- 1.0 Secondary Geomembrane CQA witnessed ESI cutting panels S-57, S-58, and S-59 on the north berm. ESI pulled the large wrinkles out of the panels, then patched, repaired, and tested all three panels. CQA verified that the wrinkles had been removed between Cell 9 panels S-58 and S-59.
- 2.0 Secondary Geocomposite CQA observed ESI deploying twenty-two (22) rolls of geocomposite on the north slope and floor of Cell 9. CQA witnessed ESI joining the geocomposite together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together and leistering patches over the butt seams.
- 3.0 Primary Geomembrane CQA observed ESI conducting non-destructive pressure testing and pulling destructive tests on the secondary geomembrane deployed yesterday, Tuesday, August 24, 2010.
- 4.0 <u>Primary Drainage Gravel</u> CQA witnessed WCH utilizing ground penetrating radar (GPR) to determine if any rutting occurred during gravel placement in Cell 9. The GPR crew concentrated the testing effort on the three (3) haul roads into Cell 9, the southwest, west, and northwest haul roads as defined in earlier reports.





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-141 |
|----------------|-------------------------|---------------|----------------|----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Wednesday, August 25, 2010 |
| Contractor(s): | TradeWind Services | 3 | Weather: | Clear: Hi: 97°F Lo: 58°F |
| | | | 7474 | Wind: 13-mph |

CONSTRUCTION ACTIVITIES

- 5.0 <u>Leachate Transmission Pipe</u> CQA observed BMWC conducting hydraulic pressure testing on the inner 10-in pipe between MH-36 and MH-37. CQA verified that the results met construction specifications. After the inner pipe passed testing, CQA observed BMWC conducting pneumatic testing on the outer 16-in pipe between MH-36 and MH-37. CQA witnessed that all joints were snooped and that pressure testing met construction specifications.
 - After pressure testing was completed, CQA observed TWS backfilling the pipe between MH-36 and MH-37. CQA observed TWS placing and compacting one (1) lift of soil over the pipeline with the CAT 330 excavator. Lift I was placed 12-in over the top of the pipe and compacted with a CAT 312 excavator with attached hoe-pack. CQA tested and verified that lift I of the utility backfill met construction specifications.
- 6.0 Tank #3 CQA observed TWS placing three (3) lifts of backfill around the Tank #3 ringwall. TWS utilized the CAT 312 excavator to place soil in 6-in lifts around the ringwall, and a water truck to moisture condition the fill. CQA witnessed TWS utilizing two (2) jumping jack hand compactors to compact the backfill next to the ringwall. CQA tested and verified that lifts 4-6 met compaction specifications.

ENVIROFECH-CQA

8/27/10 DATE

M1 Page 247 of 376





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-142 |
|----------------|-------------------------|---------------|----------------|-------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Thursday, August 26, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Pt. Cloudy: Hi: 94°F Lo: 53°F |
| | | | | Wind: 44-mph |

| FIELD NOTEBOOKS | | | | |
|------------------|----------------|-----------------------|--------------|--|
| Joe Voss Book 2 | Pages: 55-56 | Tyler Williams Book 3 | Pages: 33-34 | |
| Lucas Hay Book 2 | Pages: 123-125 | | | |

| FIELD TESTING | | | | | |
|----------------------------------|-----------|------------------|--------|--|--|
| Submittal 5-18B Tank #3 Leachate | Lift: 2-6 | LT-176 to LT-185 | Passed | | |
| Transmission MH-36 to MH-37 | | | | | |

| | LABORATORY TESTING | |
|------------------------------|--------------------|-------------------------|
| 5-18K Type A Drainage Gravel | DG-A-17A | Perm and USCS: On-going |

GENERAL ACTIVITIES

1.0 High Wind - Due to high winds in the afternoon, no geomembrane deployment was allowed. During the afternoon, high winds picked up and twisted the secondary geocomposite on the north slope of Cell 10. The geocomposite was inspected by COA and rejoined and re-sewn to the in-place secondary geocomposite.

CONSTRUCTION ACTIVITIES

1.0 Secondary Geomembrane - CQA surveyor, Stratton Surveying, was on-site to conduct the seam survey on the secondary panels and repairs on the east side of Cell 10 and in the location of the wrinkle repair in Cell 9.

Prior to geocomposite deployment, CQA observed ESI performing vacuum testing on the secondary geomembrane in

- 2.0 Secondary Geocomposite CQA observed ESI deploying twenty-two (22) rolls of geocomposite on the north slope and floor of Cell 9. CQA witnessed ESI joining the geocomposite together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together and leistering patches over the butt seams.
- 3.0 Primary Geomembrane CQA surveyor, Stratton Surveying, was on-site to conduct the seam survey on the primary panels and repairs on the west side of Cell 9.
- 4.0 Primary Drainage Gravel The CQA surveyor, Stratton Survey, was on-site to verify the thickness of the primary drainage gravel in Cell 9.
- 5.0 Leachate Transmission Pipe CQA observed TWS backfilling the pipe between MH-36 and MH-37. CQA observed TWS placing and compacting five (5) lifts of soil over the pipeline with the CAT 330 excavator. The backfill was moisture conditioned with a water truck and compacted with a CAT 312 excavator with attached hoe-pack. CQA tested and verified that lifts 2-6 of the utility backfill met construction specifications.





| Project ID: | 01-0032 ERDF Cells 9-10 C | onstruction | Report Number: | 5-16-143 |
|----------------|---------------------------|---------------|----------------|---------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Friday, August 27, 2010 |
| Contractor(s): | TradeWind Services | 3 | Weather: | Cloudy: Hi: 77°F Lo: 52°F |
| | | | | Wind: 23-mph |

| Joe Voss Book 2 | Pages: 57-58 | Tyler Williams Book 3 | Pages: 35-37 |
|------------------|--------------|-----------------------|--------------|
| Lucas Hay Book 2 | Page: 126 | | |

| - 8 | | | | |
|-----|--|-----------------|-----------|------------------|
| - 1 | | COA HOLD POINTS | | |
| - 1 | | CQA BOLD FORTS | | |
| - 1 | | | | A- M . A- K & M- |
| - 1 | Submittal 5-18R-087 Cell 10 Admix | August 27, 2010 | Panels: S | -85 to S-117 |
| - 1 | Control of the contro | | | |

| 301 | | | | |
|------|------------------------------|--------------------|----------|----------------|
| - 1 | | LABORATORY TESTING | | |
| - 1 | | LABORATORY TESTING | | |
| - 1- | C LOW TO A CAST COLOR | FN71 A 177 A | D | HECC. O |
| - 1 | 5-18K Type A Drainage Gravel | DG-A-17A | Perm and | USCS: On-going |

GENERAL ACTIVITIES

- 1.0 TWS Construction Activities TWS performed no construction activities.
- 2.0 Secondary Geomembrane Subgrade A portion of the secondary geomembrane subgrade was unacceptable for geomembrane deployment. ESI chose to deploy secondary geomembrane over this section to protect the underlying admix surface over the weekend. At a future date, ESI will cut and remove panels S-114 and S-116, and TWS shall finish the surface prior to CQA subgrade approval.

CONSTRUCTION ACTIVITIES

1.0 Secondary Geomembrane – ESI deployed seventeen (17) panels of secondary geomembrane in Cell 10 south of the Cell 10 sump. The panels were deployed west to east, perpendicular to the deployed panels on the north slope and floor. After the panels were deployed. CQA observed ESI utilizing three (3) double wedge welders to fusion weld the panels together.

ENVIROTECH-CQA

8/30/10 DATE

M1 Page 249 of 376





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-144 |
|----------------|-------------------------|---------------|----------------|---------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Monday, August 30, 2010 |
| Contractor(s): | TradeWind Services | 3 | Weather: | Cloudy: Hi: 77°F Lo: 52°F |
| | | | | Wind: 23-mph |

| Joe Voss Book 2 | Pages: 59-60 | Tyler Williams Book 3 | Pages: 38-40 |
|------------------|----------------|-----------------------|--------------|
| Lucas Hay Book 2 | Pages: 127-130 | | |

| FIELD TESTING | | | | | |
|---------------------------------------|------------|------------------|--------|--|--|
| Submittal 5-18B Leachate Transmission | Lift: 7-11 | LT-186 to LT-195 | Passed | | |
| MH-36 to MH-37 | | | 200 | | |

| | LABORATORY TE | STING | OCCORNO MARION ACAMANTAMINA CONTRACTOR ACAMANTAMINA CO | |
|------------------------------|---------------|----------|--|--|
| 5-18K Type A Drainage Gravel | DG-A-17A | Perm and | USCS: On-going | |

GENERAL ACTIVITIES

- 1.0 Lysimeter Pipe CQA met with Bill Melvin, WCH project lead, Randy Story, superintendent for ESI, and Nick, TWS liaison with ESI, about the lysimeter pipe in Cell 10. The pipe is daylighting in the bottom of the anchor trench floor, making the pipe boot difficult to install. Reviewing the design, CQA and WCH concluded that a pipe boot was not necessary in the anchor trench for the Cell 10 lysimeter pipe. CQA shall discuss with WCH engineering tomorrow.
- 2.0 Geotextile Exposure WCH has transmitted an SDDR to TWS indicating that the geotextile has a 28 day exposure window. WCH shall transmit the change to Envirotech at a later date.

CONSTRUCTION ACTIVITIES

- 1.0 Secondary Geocomposite ESI deployed twenty-two (22) panels of secondary geocomposite over the north berm and north floor of Cell 9. CQA witnessed ESI joining the geocomposite together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together and leistering patches over the butt seams.
- 2.0 Primary Geomembrane CQA observed ESI welding repairs and performing nondestructive testing on the primary geomembrane in Cell 9.
- 3.0 <u>Leachate Transmission Pipe</u> CQA witnessed BMWC filling and pressuring the entire length of the inner 10-in leachate containment pipe between MH-9 and MH-33 with water in preparation for testing tomorrow, August 31st, 2010.

In addition, CQA observed TWS backfilling the pipe between MH-36 and MH-37. CQA observed TWS placing and compacting five (5) lifts of soil over the pipeline with the CAT 988 front end loader and CAT D4 dozer. The backfill was moisture conditioned with a water truck and compacted with a CAT CS 563 smooth drum roller. CQA tested and verified that lifts 7-11 of the utility backfill met construction specifications.

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| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-145 | |
|----------------|-------------------------|---------------|----------------|-----------|----------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Tuesday. | August 31, 2010 |
| Contractor(s): | TradeWind Services | 3 | Weather: | Overcast: | Hi: 68°F Lo: 49°F |
| | | | | Wind: 22 | mph Showers: 0.06-in |

| Joe Voss Book 2 | Pages: 61-62 | Tyler Williams Book 3 | Pages: 41-42 |
|------------------|----------------|-----------------------|--------------|
| Lucas Hay Book 2 | Pages: 131-132 | | |

| FIELD TESTING | | | | |
|---------------------------------------|-------------|------------------|--------|--|
| Submittal 5-18B Leachate Transmission | Lift: 12-13 | LT-196 to LT-199 | Passed | |
| MH-36 to MH-37 | | | | |

| - | | LABORATORY TESTING | | |
|---|------------------------------|--------------------|----------|----------------|
| | 5-18K Type A Drainage Gravel | DG-A-17A | Perm and | USCS: On-going |

GENERAL ACTIVITIES

- 1.0 Lysimeter Pipe CQA met with Bill Melvin, WCH project lead, and Tim Wintel. WCH Project Engineer, about the lysimeter pipe in Cell 10 discussed in Monday, August 30, 2010. The pipe is daylighting in the bottom of the anchor trench floor, making the pipe boot difficult to install. Reviewing the design, CQA and WCH concluded that a pipe boot was not necessary in the anchor trench for the Cell 10 lysimeter pipe. A design change notice is required to allow no boot on the lysimeter pipe. Tim has agreed to initiate the design change.
- 2.0 Secondary Riser Pipes CQA met with Bill Melvin. WCH project lead, and Tim Wintel, WCH Project Engineer about the secondary riser pipe penetrations. Randy Story, ESI superintendent, has suggested that the pipe boots be welded and not clamped. CQA and WCH agreed with his recommendation, and a design change is required to modify the boot detail. Tim has agreed to initiate the design change.

CONSTRUCTION ACTIVITIES

- 1.0 Secondary Geocomposite ESI deployed eighteen (18) panels of secondary geocomposite over the north berm and north floor of Cell 10. CQA witnessed ESI joining the geocomposite together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together and leistering patches over the butt seams.
- 2.0 Primary Geomembrane CQA observed ESI performing nondestructive testing on the primary geomembrane in Cell 9.
- 3.0 <u>Leachate Transmission Pipe</u> CQA witnessed BMWC hydrostatically testing the entire length of the inner 10-in leachate containment pipe between MH-9 and MH-33. CQA verified that the 10-in pipe met testing requirements

In addition, CQA observed TWS backfilling the pipe between MH-36 and MH-37. CQA observed TWS placing and compacting two (2) lifts of soil over the pipeline with the CAT 988 front end loader and CAT D4 dozer. The backfill was moisture conditioned with a water truck and compacted with a CAT CS 563 smooth drum roller. CQA tested and verified that lifts 12-13 of the utility backfill met construction specifications.

ENVIROTECH - CQA

9/1/10 DATE





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-146 |
|----------------|--------------------------------------|---------------|----------------|------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Wednesday, September 1, 2010 |
| Contractor(s): | TradeWind Services | 3 | Weather: | Overcast: Hi: 81°F Lo: 57°F |
| | | | | Wind: 24-mph |

| | FIEL | D NOTEBOOKS | |
|--------------------|--------------|-----------------------|--------------|
| Joe Voss Book 2 | Pages: 63-64 | Tyler Williams Book 3 | Pages: 43-44 |
| James Schut Book 2 | Pages: 6-7 | | |

| FIELD TESTING | | | | |
|---------------------------------------|-------------|------------------|--------|--|
| Submittal 5-18B Leachate Transmission | Lift: 14-16 | LT-200 to LT-205 | Passed | |
| MH-36 to MH-37 | | | | |

| | LABORATORY TESTING | |
|------------------------------|--------------------|-------------------------|
| 5-18K Type A Drainage Gravel | DG-A-17A | Perm and USCS: On-going |

GENERAL ACTIVITIES

1.0 Storm water – Storm water collected in the Cell 9 and 10 sumps and in the access road across Cell 10. TWS removed the storm water from the Cell 10 sump.

CONSTRUCTION ACTIVITIES

- 1.0 Secondary Geocomposite ESI deployed nineteen (19) panels of secondary geocomposite over the north berm and north floor of Cell 10. CQA witnessed ESI joining the geocomposite together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together and leistering patches over the butt seams. In addition, CQA observed ESI leistering the secondary geotextile in the Cell 9 sump to the neighboring geocomposite panel.
- 2.0 <u>Secondary Geomembrane</u> CQA observed ESI repairing the geomembrane and performing nondestructive testing on the primary geomembrane in Cell 10.
- 3.0 <u>Primary Geomembrane</u> CQA observed ESI repairing the geomembrane and performing nondestructive testing on the primary geomembrane in Cell 9.
- 4.0 <u>Leachate Transmission Pipe</u> CQA observed TWS backfilling the pipe between MH-36 and MH-37. CQA observed TWS placing and compacting one (1) lift of soil over the pipeline with the CAT 988 front end loader and CAT D4 dozer. The backfill was moisture conditioned with a water truck and compacted with a CAT CS 563 smooth drum roller.

CQA also observed TWS placing and compacting a base/top course blended gravel material over the entrance ramp that was disturbed during the installation of MH-36 and MH-37. The gravel was placed in two (2) lifts with a CAT 988 loader, spread with a road grader, and compacted with a CAT 563 smooth drum compactor. The CQA tested and verified that lifts 14-16 of the utility backfill and base/top course met construction specifications.

5.0 Tank #1 - TWS began demolition of Tank #1 north of Cells 1 and 2.

ENVIROTECH-CQA

9/2/10

M1 Page 252 of 376





| 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-147 |
|--------------------------------------|---------------|--------------------------|---|
| S013213A00 | Staff On-site | Date: | Thursday, September 2, 2010 |
| TradeWind Services | 5 | Weather: | Pt. Cloudy: Hi: 85°F Lo: 51°F Wind: 18-mph |
| | S013213A00 | S013213A00 Staff On-site | S013213A00 Staff On-site Date: |

| A CONTRACTOR OF THE PARTY OF TH | FIEL | D NOTEBOOKS | |
|--|--------------|-----------------------|--------------|
| Joe Voss Book 2 | Pages: 65-66 | Tyler Williams Book 3 | Pages: 45-46 |
| James Schut Book 2 | Pages: 8-9 | | |

| | LABORATORY TESTING | SQUITTING CONTROL CHARGES IN THE CONTROL CHARGE OF | |
|------------------------------|--------------------|--|----------------|
| 5-18K Type A Drainage Gravel | DG-A-17A | Perm and | USCS: On-going |

GENERAL ACTIVITIES

1.0 Cell 9 Secondary Sump Repair - TWS pumped the storm water from the Tuesday rain event from the Cell 9 secondary sump to the Cell 10 secondary sump. After the water level had been sufficiently reduced, CQA witnessed storm water under the secondary geomembrane on the north side of the Cell10 sump. CQA and ESI began investigating the source of the storm water introduction using hand shovels to remove the secondary drainage gravel.

A hole in the secondary geomembrane appears to be the most likely cause of the storm water introduction. A significant amount of storm water was introduced under the secondary geomembrane; therefore, the size of the hole must be significant. By the end of the day, the hole in the liner was not found.

CONSTRUCTION ACTIVITIES

- 1.0 Secondary Geocomposite ESI deployed twenty-two (22) panels of secondary geocomposite over the north berm and north floor of Cell 10. CQA witnessed ESI joining the geocomposite together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together and leistering patches over the butt seams.
- 2.0 <u>Secondary Geomembrane</u> CQA observed ESI repairing the geomembrane and performing nondestructive testing on the secondary geomembrane in Cell 10.

In addition, Stratton Surveying, the CQA surveyors, were on-site to conduct the secondary seam survey.

3.0 Tank #1 - TWS continued demolition of Tank #1 north of Cells 1 and 2.

ENVIROTECH-CQA

9/7/10 DATE





| Project ID: | 01-0032 ERDF Cells 9-1 | Construction (| Report Number: | 5-16-148 |
|----------------|--|----------------|----------------|-------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Friday, September 3, 2010 |
| Contractor(s): | TradeWind Services | 3 | Weather: | Pt. Cloudy: Hi: 89°F Lo: 59°F |
| | THE PARTY OF THE P | | accomposition | Wind: 26-mph |

| | FIEL | D NOTEBOOKS | |
|--------------------|--------------|-----------------------|--------------|
| Joe Voss Book 2 | Pages: 67-69 | Tyler Williams Book 3 | Pages: 47-50 |
| James Schut Book 2 | Pages: 10-11 | | |

| | CQA HOLD POINTS | |
|--|--------------------|----------------------|
| Submittal 5-18R-088 Cell 9 Primary Subgrade | September, 3, 2010 | Panels: P-51 to P-56 |
| Submittal 5-18R-089 Cell 10 Admix Surface | September, 3, 2010 | Panels: S-118 |

| LABORATORY TESTING | | | | | | |
|------------------------------|----------|-------------------------|--|--|--|--|
| 5-18K Type A Drainage Gravel | DG-A-17A | Perm and USCS: On-going | | | | |

GENERAL ACTIVITIES

1.0 Cell 9 Secondary Sump Repair - TWS. ESI, and CQA continued the investigation in the Cell 9 sump. TWS removed the overbearing secondary drainage gravel from the toe and crotch of the Cell 9 sump with a CAT 303 rubber-track excavator. ESI peeled back the secondary geocomposite to expose the underlying secondary geomembrane. The investigation discovered a hole in the secondary geomembrane at the northwest shoulder of the sump. The hole was a circular hole approximately 3-in. in diameter that was cut during the first sump repair to evaluate the admix underneath the secondary geomembrane. During the first repair, the hole was covered with geocomposite prior to beginning repairs and was not logged.

After the hole was discovered, a release hole was cut at the rock line in the Cell 9 riser trench to release the trapped water. The water was walked to the release hole and pumped out. The hole was propped open and the admix underneath was allowed to dry. CQA evaluated the admix in the locations of the ponded water and the release hole; CQA determined that the admix met the stability requirements in the construction specifications.

ESI patched, welded, and non-destructively testing both holes in the secondary geomembrane. CQA verified that the secondary geomembrane and geotextile were placed and joined over the secondary geomembrane as per construction specifications. TWS utilized the rubber tracked CAT 303 excavator to replace the drainage gravel in the Cell 9 sump.

Following the repair, CQA initiated a non-conformance report, NCR-01. NCR-01 triggered a corrective action, which included a conference call with the CQA officer, Rob Stallings. CQA met internally and completed the corrective action associated with NCR-01.





| Project ID: | 01-0032 ERDF Cells 9-11 | 0 Construction | Report Number: | 5-16-148 |
|----------------|-------------------------|----------------|----------------|-------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Friday, September 3, 2010 |
| Contractor(s): | TradeWind Services | 3 | Weather: | Pt. Cloudy: Hi: 89°F Lo: 59°F |
| | | | | Wind: 26-mph |

CONSTRUCTION ACTIVITIES

- 1.0 Secondary Geomembrane CQA observed ESI repairing the geomembrane and performing nondestructive testing on the secondary geomembrane in Cell 10. Part of the repairs included removing 264-ft of weld S-4/S-5 on the floor of Cell 10. The weld was cut out, and secondary panel S-118 was placed in between the panels. Panels S-4 and S-5 were double wedge welded to either side of panel S-118.
- 2.0 Primary Geomembrane CQA observed ESI deploying six (6) panels of primary geomembrane in Cell 9. ESI deployed panels P-51 to P-56 on the north slope and floor of Cell 9 east of the Cell 9 sump. A rub sheet was placed over the secondary geocomposite, and the panels were deployed from the top of the north berm and walked down the slope by the laborers. A track bobcat was used to pull the panels across the cell floor and butt the ends of the panels next to the previously deployed primary geomembrane.

After the panels were deployed. CQA observed ESI utilizing two (2) double wedge welders to weld all panels together.

| 3.0 Tank #1 – TWS continued demolition of | of Tank #1 north of Cells 1 a | and 2. |
|---|-------------------------------|--------|
|---|-------------------------------|--------|

ENVROTECH-CQA

9/7//6

ATE M1 Page 255 of 376





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-149 | |
|--|-------------------------|---------------|----------------|----------|-------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Tuesday. | September 7, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Overcast | Hi: 71°F Lo: 56°F |
| SOUTH THE PROPERTY OF THE PROP | | | | Wind: 15 | -mph |

| | Fiel | .D NOTEBOOKS | |
|--------------------|-------------|-----------------------|--------------|
| Joe Voss Book 2 | Page: 70 | Tyler Williams Book 3 | Pages: 51-52 |
| James Schut Book 2 | Page: 12-13 | | |

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| 5-18K Type A Drainage Gravel | DG-A-17A | Perm and | USCS: On-going | CONCERNO |

GENERAL ACTIVITIES

- 1.0 Storm water Although the weather station recorded no precipitation, heavy rain showers halted work on-site. Standing water on the composite and geomembrane suspended all geomembrane placement activities. No geomembrane was placed.
- 2.0 Weekly Progress Meeting CQA attended the construction subcontractor's weekly progress meeting on Tuesday, September 7th, 2010 at 10:00 am, in the meeting trailer.
- 3.0 CQA Weekly Progress Meeting CQA attended the CQA subcontractor's weekly progress meeting on Tuesday, September 7th, 2010 at 10:15 am in the meeting trailer.
- 4.0 Cell 9 Secondary Sump Repair TWS completed replacement and grading of the secondary drainage gravel in the Cell 9 sump with the CAT 303 rubber track excavator aided by the TWS surveyor. Stratton Surveying was on-site to as-built the secondary drainage gravel. CQA has verified that the Cell 9 sump has been constructed as per contract specifications. This completes the Cell 9 secondary sump repair.

CONSTRUCTION ACTIVITIES

- 1.0 Secondary Geomembrane Stratton Surveying was on-site to conduct the secondary seam survey in Cell 10.
- 2.0 <u>Secondary Geocomposite</u> ESI deployed three (3) panels of secondary geocomposite in the Cell 9 sump. CQA witnessed ESI joining the geocomposite together with plastic zip ties as per construction specifications.
- 3.0 Primary Geomembrane Stratton Surveying was on-site to conduct the primary seam survey in Cell 9.
- 4.0 Tank #1 TWS continued demolition of Tank #1 north of Cells 1 and 2.

ENYROTECH - CQA

9/1/10

PAGE LOF I





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-150 |
|----------------|-------------------------|---------------|----------------|------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Wednesday, September 8, 2010 |
| Contractor(s): | TradeWind Services | 3 | Weather: | Overcast: Hi: 73°F Lo: 56°F |
| | | | | Wind: 17-mph |

| *************************************** | | FIELD N | OTEBOOKS | |
|---|--------------------|-------------|-----------------------|--------------|
| - | Joe Voss Book 2 | Page: 71-73 | Tyler Williams Book 3 | Pages: 53-55 |
| Company | James Schut Book 2 | Page: 14-16 | | 883 |

| CQA HOLD POINTS | | | | | | |
|------------------------------------|--------------------|----------------------|--|--|--|--|
| Submittal 5-18R-090 Cell 9 Primary | September, 8, 2010 | Panels: P-57 to P-58 | | | | |
| Subgrade | | | | | | |

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| - | | LABORATORY ' | FESTING | |
| | 5-18K Type A Drainage Gravel | DG-A-17A | Perm and | USCS: On-going |

GENERAL ACTIVITIES

- 1.0 Storm water Light showers occurred during morning hours. I believe the weather station is no longer recording precipitation, I parked by the tower while it rained, yet no precipitation recorded. TWS continued pumping the Cell 9 sump into the Cell 10 sump. After the Cell 9 Sump was completed, TWS pumped the Cell 10 secondary sump storm water past the east termination of Cell 10. Geomembrane deployment/welding was suspended several times during the day due to weather conditions.
- 2.0 Plan of Tomorrow Meeting CQA attended the plan of tomorrow meeting. Dave Sterly, TWS QC; Bill Melvin, WCH project lead; Tim Wintel, WCH Engineer: Charlie Skiba. WCH CQA STR: Jake Howard, WCH Construction STR, and Mike Webb, WCH QA, were all in attendance. Collectively, we discussed the Cell 9 sump issues and corrective actions resulting from the Non-Conformance Reports authored independently by TWS and CQA. The corrective actions following the two (2) NCRs include a procedural change in how CQA documents liner repairs and a procedural change to conducting repairs on geomembrane that has overbearing materials. The CQA Corrective Action Report will provide further details.

The CQA Engineer met with the CQA field personnel to discuss the corrective actions and the procedural changes resulting from the Corrective Action Report that was triggered by 5-19-01 NCR-01.

CONSTRUCTION ACTIVITIES

1.0 Secondary Geomembrane – CQA witnessed ESI performing vacuum testing the secondary repairs on the secondary geomembrane on the north side of Cell 10.

CQA observed ESI completing the repairs on panel S-118 welded on Friday, September 3rd, 2010.





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-150 |
|----------------|-------------------------|---------------|----------------|---|
| Job Number: | S013213A00 | Staff On-site | Date: | Wednesday, September 8, 2010 |
| Contractor(s): | TradeWind Services | 3 | Weather: | Overcast: Hi: 73°F Lo: 56°F Wind: 17-mph |

CONSTRUCTION ACTIVITIES

- 2.0 Secondary Geocomposite ESI deployed fifteen (15) panels of secondary geocomposite over the north berm and north floor of Cell 10. CQA witnessed ESI joining the geocomposite together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together and leistering patches over the butt seams. In addition, CQA observed ESI leistering the secondary geotextile in the Cell 9 sump to the neighboring geocomposite panel.
- 3.0 <u>Cell 9 Secondary Sump</u> CQA observed ESI deploying 16 oz. geotextile over the secondary drainage gravel in the Cell 9 sump. All panels were double wedge welded together and leistered to the secondary geocomposite.
- 4.0 Primary Geomembrane CQA observed ESI performing non-destructive pressure testing on Cell 9 primary panels P-51 to P-56.

CQA also observed ESI deploying two (2) panels of primary geomembrane in Cell 9. ESI deployed panels P-57 to P-58 on the north slope and floor of Cell 9 directly east of the Cell 9 sump, next to panel P-51. A rub sheet was placed over the secondary geocomposite, and the panels were deployed from the top of the north berm and walked down the slope by the laborers. A track bobcat was used to pull the panels across the cell floor and but the ends of the panels next to the previously deployed primary geomembrane.

After the panels were deployed, CQA observed ESI utilizing two (2) double wedge welders to weld all panels together.

5.0 Tank #1 - TWS continued demolition of Tank #1 north of Cells 1 and 2.

ENVIROTECH - CQA

9/9/10 DATE





| Project ID: | 01-0032 ERDF Cells 9-10 (| Construction | Report Number: | 5-16-151 |
|----------------|---------------------------|---------------|----------------|-----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Thursday, September 9, 2010 |
| Contractor(s): | TradeWind Services | 6 | Weather: | Overcast: Hi: 76°F Lo: 56°F |
| | | | | Wind: 29-mph |

| | Fiel | D NOTEBOOKS | |
|--------------------|--------------|-----------------------|----------------|
| Joe Voss Book 2 | Pages: 74-77 | Tyler Williams Book 3 | Pages: 56-59 |
| James Schut Book 2 | Pages: 17-19 | Luke Hay Book 2 | Pages: 134-136 |

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|---|--------------------|---|
| Submittal 5-18R-091 Cell 9 Primary Subgrade | September, 9, 2010 | Panels: P-59 to P-61 |
| Submittal 5-18R-092 Cell 10 Primary Subgrade | September, 9, 2010 | Panels: P-11 to P-12 |

| LABORATORY TESTING | |
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| LABORATORY TESTING | |
| | |
| 5-18K Type A Drainage Gravel DG-A-17A Perm and | USCS: On-going |

GENERAL ACTIVITIES

- 1.0 Storm water Storm water collected in the Cell 9 sump overnight, leaving water 2-3 inches above the secondary drainage gravel. CQA and TWS inspected the Cell 9 and Cell 10 sump, no infiltration of storm water under the secondary geomembrane occurred. However, the weather station did not record any precipitation data.
- 2.0 Geocomposite Deployment Following comments by Jack Howard, WCH Construction STR, CQA modified the procedure for geocomposite joining inspection. From this point forward, no geotextile will be sewn or leistered over geocomposite joints until CQA paints a green approval dot on the overlap.
- 3.0 CQA/CQC Geomembrane Repair Log Verification A TWS representative conducted a verification of both ESI and CQA geomembrane repair logs. He verified that all the repair locations on the south half of the Cell 10 secondary geomembrane were captured in the repair log entries. The TWS representative discovered no inconsistencies between the repairs and entries in either repair log.
- 4.0 Plan of Tomorrow Meeting CQA attended the plan of tomorrow meeting. Dave Sterly, TWS QC; Bill Melvin, WCH project lead; Tim Wintel, WCH Engineer; Charlie Skiba, WCH CQA STR; Jake Howard, WCH Construction STR; Brian Covert; Project Director of Waste Operations; Robert Carter, WCH QA Manager; and Mike Webb, WCH QA, were all in attendance. Collectively, we discussed the Cell 9 sump issues and corrective actions resulting from the Non-Conformance Reports authored independently by TWS and CQA. See the CQA Corrective Action Report for further details on the CQA corrective actions.

Following the meeting the CQA Engineer met again with the CQA field personnel to discuss the corrective actions and the procedural changes resulting from the Corrective Action Report that was triggered by 5-19-01 NCR-01.





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-151 |
|----------------|-------------------------|---------------|----------------|-----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Thursday, September 9, 2010 |
| Contractor(s): | TradeWind Services | 6 | Weather: | Overcast Hi: 76°F Lo: 56°F |
| 2000 | T-AAA-TARAATARAA | | | Wind: 29-mph |

GENERAL ACTIVITIES

5.0 WCH Geomembrane Deployment Verification – Following the plan of tomorrow meeting. Mike Webb with WCH QA also performed a geomembrane repair log verification. While Mike Webb also noted no inconsistencies in the repair log entries, he did discover a soft patch of admix in the Cell 9 floor.

The soft patch is due to rain water infiltration under a leistered patch on September 3rd, 2010. The leistered patch was extrusion welded September 8th, 2010. While the admix under the leistered patch met admix stability, the water had pooled at low point in the liner approximately 30-ft away. Due to the threat of additional rain, the location was left sealed; ESI shall repair this location at a later date.

CONSTRUCTION ACTIVITIES

1.0 <u>Secondary Geomembrane</u> – CQA witnessed ESI performing vacuum testing the secondary repairs on the secondary geomembrane on the north side of Cell 10.

Stratton Surveying was on-site to perform the secondary seam survey in Cell 10.

- 2.0 Secondary Geocomposite ESI deployed twenty-four (24) panels of secondary geocomposite over the north berm and north floor of Cell 10. CQA witnessed ESI joining the geocomposite together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together and leistering patches over the butt seams. In addition, CQA observed ESI leistering the secondary geotextile in the Cell 9 sump to the neighboring geocomposite panel.
- 3.0 Primary Geomembrane CQA observed ESI deploying three (3) panels of primary geomembrane in Cell 9. ESI deployed panels P-59 to P-61 on the north slope and floor of Cell 9 from panel S-56 to the Cell 9/10 crest. A rub sheet was placed over the secondary geocomposite, and the panels were deployed from the top of the north berm and walked down the slope by the laborers. A track bobcat was used to pull the panels across the cell floor and but the ends of the panels next to the previously deployed primary geomembrane. After the panels were deployed, CQA observed ESI utilizing three (3) double wedge welders to weld all panels together.

CQA also observed ESI deploying two (2) panels of primary geomembrane in Cell 9. ESI deployed panels P-59 to P-63 on the north slope and floor of Cell 9 from panel S-56 to the Cell 9/10 crest. A rub sheet was placed over the secondary geocomposite, and the panels were deployed from the top of the north berm and walked down the slope by the laborers. A track bobcat was used to pull the panels across the cell floor and butt the ends of the panels next to the previously deployed primary geomembrane. After the panels were deployed. CQA observed ESI utilizing three (3) double wedge welders to weld all panels together.

Stratton Surveying was on-site to perform the secondary seam survey in Cell 10.

4.0 Tank #1 - TWS completed demolition of Tank #1 north of Cells 1 and 2. WCH utilized ground penetrating radar to locate the pipes underground in the area of Tank #1.

EXVIROTECH-CQA

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M1 Page 260 of 376





| Project ID: | 01-0032 ERDF Cells 9-1 | 0 Construction | Report Number: | 5-16-152 |
|----------------|---|----------------|----------------|-------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Friday, September 10, 2010 |
| Contractor(s): | TradeWind Services | 3 | Weather: | Pt. Cloudy: Hi: 76°F Lo: 48°F |
| | To deligned the second | | | Wind: 26-mph |

| | FIEL | D NOTEBOOKS | out (Internation) care and continue assistant and content of the continue are an extensive and device an extensive and the content of the con |
|--------------------|--------------|-----------------|--|
| Joe Voss Book 2 | Pages: 78-80 | Luke Hay Book 2 | Pages: 137-139 |
| James Schut Book 2 | Pages: 20-22 | | |

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|--|---------------------|---|--|
| Submittal 5-18R-093 Cell 9 Primary Subgrade | September, 10, 2010 | Panels: P | -62 to P-67 |
| Submittal 5-18R-094 Cell 10 Primary Subgrade | September, 10, 2010 | Panels: P | -13 to P-18 |

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| 5-18K Type A Drainage | Gravel DG-A-17A | Perm and USCS: On-going |

GENERAL ACTIVITIES

- 1.0 Secondary Geomembrane Repair CQA continues to track the soft patch located yesterday under the Cell 10 secondary geomembrane resulting from rainwater infiltrating under a leistered patch. A second soft area was found in the center section of Cell 10, which also resulted from an exposed leistered patch. ESI did not repair either area; CQA shall continue to track the repairs.
- 2.0 EPA Visit Dave Einan with EPA was on-site to verify the Cell 10 sump repair and ensure that no other holes in the secondary geomembrane existed.

- 1.0 <u>Secondary Geomembrane</u> CQA witnessed ESI performing vacuum testing on the secondary repairs on the secondary geomembrane on the north side of Cell 10.
- 2.0 Secondary Geocomposite CQA witnessed ESI joining the geocomposite that was deployed on September 9, 2010. The geocomposite was joined together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together and leistering patches over the butt seams.





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-152 |
|----------------|-------------------------|---------------|----------------|-------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Friday, September 10, 2010 |
| Contractor(s): | TradeWind Services | 3 | Weather: | Pt. Cloudy: Hi: 76°F Lo: 48°F |
| | | | | Wind: 26-mph |

CONSTRUCTION ACTIVITIES

3.0 Primary Geomembrane — CQA observed ESI deploying six (6) panels of primary geomembrane in Cell 9. ESI deployed panels P-62 to P-67 on the north slope and floor of Cell 9 though the Cell 9 riser trench and sump. A rub sheet was placed over the secondary geocomposite, and the panels were deployed from the top of the north berm and walked down the slope by the laborers. A track bobcat was used to pull the panels across the cell floor and butt the ends of the panels next to the previously deployed primary geomembrane. After the panels were deployed, CQA observed ESI utilizing three (3) double wedge welders to weld all panels together.

CQA also observed ESI deploying six (6) panels of primary geomembrane in Cell 10. ESI deployed panels P-13 to P-18 on the north slope and floor of Cell 10 from panel P-12 to just west of the Cell 10 sump. A rub sheet was placed over the secondary geocomposite, and the panels were deployed from the top of the north berm and walked down the slope by the laborers. A track bobcat was used to pull the panels across the cell floor and butt the ends of the panels next to the previously deployed primary geomembrane. After the panels were deployed, CQA observed ESI utilizing three (3) double wedge welders to weld all panels together.

ENVIROTECH – CQA DATE

M1 Page 262 of 376





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-153 |
|----------------|-------------------------|---------------|----------------|----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Monday, September 13, 2010 |
| Contractor(s): | TradeWind Services | 3 | Weather: | Clear: Hi: 84°F Lo: 51°F |
| | vicental and | | | Wind: 17-mph |

| FIELD NOTEBOOKS | | | | |
|--------------------|--------------|-----------------|----------------|--|
| Joe Voss Book 2 | Pages: 81-82 | Luke Hay Book 2 | Pages: 140-142 | |
| James Schut Book 2 | Pages: 23-24 | | | |

| | LABORATORY TESTING | | |
|------------------------------|--------------------|----------|----------------|
| 5-18K Type A Drainage Gravel | DG-A-17A | Perm and | USCS: On-going |

GENERAL ACTIVITIES

1.0 Secondary Geomembrane Repair – The soft patch in the center of the Cell 10 floor healed itself over the weekend. CQA and CQC inspection found that the water had been absorbed and distributed though the admix material resulting in a firm and stable surface. The soft patch on the north half of Cell 10 near secondary geomembrane panel S-118 has shrunk in size but still remains unacceptable. CQA continues to track the soft patch located near panel S-118 in Cell 10.

CONSTRUCTION ACTIVITIES

- 1.0 <u>Secondary Geomembrane</u> CQA witnessed ESI performing vacuum testing on the secondary repairs on the secondary geomembrane on the north side of Cell 10.
- 2.0 Secondary Geocomposite ESI deployed twenty (20) panels of secondary geocomposite over the north berm and north floor of Cell 10. CQA witnessed ESI joining the geocomposite together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together and leistering patches over the butt seams. In addition, CQA observed ESI leistering the secondary geotextile in the Cell 9 sump to the neighboring geocomposite panel.
- 3.0 Secondary Riser Trench CQA observed ESI removing the blow sand from the Cell 10 secondary riser trench that had accumulated due to windblown dust. The sand was placed into sand bags and used to anchor the deployed primary geomembrane in Cell 10.
- 4.0 Secondary Geotextile CQA observed ESI deploying and sewing the 16 oz. geotextile over the Type B drainage gravel in the Cell 10 sump. The geotextile was leistered to the geocomposite on the slope and floor of Cell 10.
- 5.0 Primary Geomembrane CQA observed ESI pulling destructive tests on the primary geomembrane in Cell 9. CQA also witnessed ESI conducting repairs on the primary geomembrane on the north half of Cell 9. After the repairs were completed CQA witnessed ESI performing vacuum testing on the repairs.
- 6.0 Tank 4 CQA observed TWS preparing the subgrade of the Tank 4 foundation. In addition, TWS began excavating the pipe trenches for the leachate transmission line for Tank 4.

ENVIROTECH - CQA

DATE

DATE M1 Page 263 of 376 PAGE 1 OF 1





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-154 |
|----------------|-------------------------|---------------|----------------|-----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Tuesday, September 14, 2010 |
| Contractor(s): | TradeWind Services | 6 | Weather: | Clear: Hi: 85°F Lo: 53°F |
| | | | | Wind: 17-mph |

| FIELD NOTEBOOKS | | | | |
|--------------------|--------------|---------------------|----------------|--|
| Joe Voss Book 2 | Pages: 83-85 | Luke Hay Book 2 | Pages: 143-145 | |
| James Schut Book 2 | Pages: 25-27 | Ryan Swenson Book 1 | Page: 42 | |

| | FIELD TESTING | TTRE ST. 122 TO 622 X 9952 322 266 2662 1 Strong Print Stock in 2004 in Historica Company (April 1994) (April 1994) | | |
|------------------------|------------------------|---|--------|--|
| Submittal 5-18B Tank 4 | Lifts: Subgrade, 1 - 4 | T4-01 to T4-05 | Passed | |

| | CQA HOLD POINTS | |
|-------------------------------------|---------------------|----------------------|
| Submittal 5-18R-095 Cell 10 Primary | September, 14, 2010 | Panels: P-19 to P-27 |
| Subgrade | | |

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|---|------------------------------|--------------------|----------|----------------|
| | | LABORATORY TESTING | | |
| | 5-18K Type A Drainage Gravel | DG-A-17A | Perm and | USCS: On-going |

GENERAL ACTIVITIES

- 1.0 Secondary Geomembrane Repair The soft patch on the north half of Cell 10 remains, CQA shall continue to track the soft spot in the admix near panels S-118 in Cell 10.
- 2.0 Weekly Progress Meeting CQA attended the construction subcontractor's weekly progress meeting on Tuesday, September 14th, 2010 at 10:00 am. in the meeting trailer.
- 3.0 CQA Weekly Progress Meeting CQA attended the CQA subcontractor's weekly progress meeting on Tuesday, September 14th, 2010 at 10:15 am in the meeting trailer.
- 4.0 <u>Cell 9 Sump Repair Presentation</u> Bill Melvin, WCH lead, presented the Cell 9 sump repairs to DOE and EPA representatives at 10:30 am in the meeting trailer.

- 1.0 <u>Secondary Geomembrane</u> The CQA surveyors were on-site to capture all the as-built the repairs on the secondary geomembrane in both Cells 9 and 10.
- 2.0 Secondary Geocomposite ESI deployed nine (9) panels of secondary geocomposite on the north-center section of Cell 10. CQA witnessed ESI joining the geocomposite together with plastic zip ties as per construction specifications. After the panels were joined. CQA observed ESI sewing the flaps together and leistering patches over the butt seams.





| Project 1D: | 01-0032 ERDF Cells 9-10 |) Construction | Report Number: | 5-16-154 | |
|----------------|-------------------------|----------------|----------------|----------|--------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Tuesday | September 14, 2010 |
| Contractor(s): | TradeWind Services | 6 | Weather: | Clear: H | : 85°F Lo: 53°F |
| | | | | Wind: 17 | -mph |

CONSTRUCTION ACTIVITIES

3.0 Primary Geomembrane -CQA witnessed ESI conducting repairs on the primary geomembrane on the north half of Cell9. After the repairs were completed CQA witnessed ESI performing vacuum testing on the repairs.

CQA also witnessed ESI deploying nine (9) panels of primary geomembrane in Cell 10. ESI deployed panels P-19 to P-27 on the north slope and floor of Cell 10 from panel P-18, west of the Cell 10 sump, to the east side of the Cell 10 sump. A rub sheet was placed over the secondary geocomposite, and the panels were deployed from the top of the north berm and walked down the slope by the laborers. A track bobcat was used to pull the panels across the cell floor and butt the ends of the panels next to the previously deployed primary geomembrane. After the panels were deployed, CQA observed ESI utilizing three (3) double wedge welders to weld all panels together.

4.0 <u>Tank 4</u> – CQA observed TWS completing the excavation of the leachate transmission trenches for Tank 4. CQA tested and verified that the subgrade of Tank 4, which was compacted in Report 5-16-153, met construction specifications.

CQA also observed TWS placing four (4) lifts of fill over the south west half the Tank 4 foundation. An International Payhauler brought fill to the tank pad and a CAT D4 dozer spread the soil over the Tank 4 foundation. A CAT 563 smooth drum compactor aided by a water truck compacted the soil backfill. CQA tested and verified that the lifts 1-4 met construction specifications.

In addition, CQA witnessed BMWC welding the leachate transmission pipes near the Tank 4 foundation. After the pipe was welded, BMWS aided by TWS, placed the leachate transmission pipes into the Tank 4 leachate transmission trenches.

ENVIROTECH - CQA

9/15/10





| Project ID: | 01-0032 ERDF Cells 9-10 C | onstruction | Report Number: | 5-16-155 |
|----------------|---------------------------|---------------|----------------|-------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Wednesday, September 15, 2010 |
| Contractor(s): | TradeWind Services | 3 | Weather: | Pt. Cloudy: Hi: 82°F Lo: 52°F |
| | | | | Wind: 39-mph |

| FIELD NOTEBOOKS | | | | |
|--------------------|--------------|-----------------|----------------|--|
| Joe Voss Book 2 | Pages: 86-88 | Luke Hay Book 2 | Pages: 146-147 | |
| James Schut Book 2 | Pages: 28-29 | | | |

| CQA HOLD POINTS | | | |
|-------------------------------------|--------------------|----------------------|--|
| Submittal 5-18R-096 Cell 10 Primary | September 15, 2010 | Panels: P-28 to P-38 | |
| Subgrade | | | |

| The state of the s | | LABORATORY | TESTING | |
|--|------------------------------|------------|----------|------------------|
| | 5-18K Type A Drainage Gravel | DG-A-17A | Perm and | I USCS: On-going |

GENERAL ACTIVITIES

- 1.0 Secondary Geomembrane Repair The soft patch on the south half of Cell 10 remains, CQA shall continue to track the soft spot in the admix near panels S-118 in Cell 10.
- 2.0 Cell 10 Termination CQA noted that the Cell 10 termination was not being constructed as per design drawings. CQA met with TWS CQC, Dave Sterly, and ESI Superintendent, Randy Story, to discuss the construction of the Cell 10 termination. ESI had placed secondary geocomposite and primary geomembrane over the termination and 3-ft over the toe of slope.

Following the conversation, CQA observed ESI cutting back the secondary geocomposite and primary geomembrane to the dimensions provided in the design drawings. In addition, ESI cut the primary geomembrane at the toe of slope as to include the rain flap diagram as provided in the design drawings.

CQA also discussed alternatives with the WCH staff concerning the Cell 10 termination rain flap. The WCH engineer, Tim Wintel, is discussing alternatives with the engineering staff.

CONSTRUCTION ACTIVITIES

1.0 Secondary Geocomposite – CQA witnessed ESI joining the geocomposite deployed on the floor of Cell 10 on September 14, 2010 together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together and leistering patches over the butt seams.





| Project ID: | 01-0032 ERDF Cells 9-10 |) Construction | Report Number: | 5-16-155 |
|----------------|-------------------------|----------------|----------------|---|
| Job Number: | S013213A00 | Staff On-site | Date: | Wednesday, September 15, 2010 |
| Contractor(s): | TradeWind Services | 3 | Weather: | Pt. Cloudy: Hi: 82°F Lo: 52°F Wind: 39-mph |

CONSTRUCTION ACTIVITIES

2.0 Primary Geomembrane -CQA witnessed ESI conducting extrusion repairs on the primary geomembrane in Cells 9 and 10. After the repairs were completed CQA witnessed ESI performing vacuum testing on the repairs.

CQA also witnessed ESI deploying eleven (11) panels of primary geomembrane in Cell 10. ESI deployed panels P-28 to P-38 on the north slope and floor of Cell 10 from panel P-27, east of the Cell 10 sump, to the east termination of Cell 10. A rub sheet was placed over the secondary geocomposite, and the panels were deployed from the top of the north berm and walked down the slope by the laborers. A track bobcat was used to pull the panels across the cell floor and butt the ends of the panels next to the previously deployed primary geomembrane. After the panels were deployed, CQA observed ESI utilizing three (3) double wedge welders to weld all panels together.

In addition, CQA destructive testing failed primary destructive sample DP-03 located on panel P11/P12 in Cell 10. ESI and CQA will determine the extents of the failed seam at a later date.

3.0 <u>Tank 4</u> - CQA witnessed BMWC installing the two (2) HDPE pipes in the Tank 4. BMWC and TWS installed the 8x4-in drain line and began installation of the 16x10-in double containment inlet pipe in the foundation of Tank 4. The 2-in leachate detection pipe for Tank 4 has not arrived on-site.

ENVIROTECH-CQA DATE





| ACCORDANGE. | Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-156 |
|--|----------------|-------------------------|---------------|----------------|------------------------------|
| action of the last | Job Number: | S013213A00 | Staff On-site | Date: | Thursday, September 16, 2010 |
| 2/ | Contractor(s): | TradeWind Services | 5 | Weather: | Cloudy: Hí: 82°F Lo: 60°F |
| CACAGORDA PAR | 0000000 | | | | Wind: 20-mph Rain |

| | Firi | .d Notebooks | |
|--------------------|--------------|-----------------|----------------|
| Joe Voss Book 2 | Pages: 89-90 | Luke Hay Book 2 | Pages: 148-150 |
| James Schut Book 2 | Pages: 30-32 | | |

| | | CQA HOLD POINTS | | |
|-----------|---------------------------|--------------------|-----------|--------------|
| Submittal | 5-18R-097 Cell 10 Primary | September 16, 2010 | Panels: I | P-39 to P-48 |
| Subgrade | | | | |

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| FIELD FESTING | 8000 | Figur Teerr | DNI CO | |
| | | LIETA LESTI | 1110 | |
| Submittal 5-18B Tank 4 NE foundation Lift: 1 T4-06 Passed | | n Lift: I | T4-06 | Passed |

| Scannen St. | | LABORATORY | | |
|-----------------|------------------------------|------------|----------|------------------|
| DOMODING COLUMN | 5-18K Type A Drainage Gravel | DG-A-17A | Perm and | l USCS: On-going |

GENERAL ACTIVITIES

- 1.0 Secondary Geomembrane Repair The soft patch on the orth half of Cell 10 remains, CQA shall continue to track the soft spot in the admix near panels S-118 in Cell 10.
- 2.0 Storm water Due to overnight storms, both Cell 9 and Cell 10 sumps filled with water. CQA observed TWS pumping the storm water from the Cell 9 sump to the Cell 10 sump and from the Cell 10 sump past the east termination of Cell 10. After the water was removed, CQA inspected the subgrade and verified that the subgrade met construction specifications.

CONSTRUCTION ACTIVITIES

1.0 Secondary Geocomposite – ESI deployed one (1) panel of secondary geocomposite on the north-center section of Cell 10. CQA witnessed ESI joining the geocomposite together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together and leistering patches over the butt seams.





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-156 |
|----------------|-------------------------|---------------|----------------|------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Thursday, September 16, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Cloudy: Hi: 82°F Lo: 60°F |
| | | | | Wind: 20-mph Rain |

CONSTRUCTION ACTIVITIES

2.0 Primary Geomembrane - CQA witnessed ESI conducting extrusion repairs on the primary geomembrane in Cells 9 and 10. After the repairs were completed CQA witnessed ESI performing vacuum testing on the repairs.

CQA also witnessed ESI deploying ten (10) panels of primary geomembrane in Cell 10. ESI deployed panels P-39 to P-48 on the floor of Cell 10 south of the deployed primary geomembrane in Cell 10. A rub sheet was placed over the secondary geocomposite, and the panels were deployed from east to west across Cell 10, from the Cell 10 termination to the Cell 9/10 tie-in. After the panels were deployed, CQA observed ESI utilizing three (3) double wedge welders to weld all panels together.

CQA and ESI determined the extents of the failing destruct DP-03 on seam P12/P13 in Cell 10. Initially, destructive testing was performed 10-ft to either side of the failing destructive test. Initial destructive testing by ESI failed, and the extents of the failed seam were expanded by 25-ft. After the ESI testing passed, CQA collected and verified that the seam met construction specifications through independent destructive testing.

Stratton Surveying as on-site to conduct the primary liner as-built of Cells 9 and 10.

- 3.0 Primary Geotextile CQA witnessed ESI deploying three (3) rolls of 16 oz. primary geotextile on the floor of Cell 9 near the Cell 8 tie-in. After the panels were placed, ESI either sewed or double wedge welded the geotextile together.
- 4.0 <u>Tank 4 Continued</u>— After the 2-in HDPE leak detection pipe arrived on-site, ESI welded and installed the 2-in HDPE leak detection pipe under Tank 4. In addition, BMWC and TWS completed installation of the inlet 18x12-in double containment inlet pipe in Tank 4.

CQA also witnessed BMWC pressure testing the three (3) pipes under Tank 4. CQA observed ESI hydrostatically testing the inner 4-in drain pipe and the inner 10-in inlet pipe. CQA confirmed that all hydrostatic testing met construction specifications. CQA also observed ESI pneumatically testing the outer 8-in drain pipe and the outer 16-in inlet pipe. All pipe welds were snooped with a soap water solution, and no leaks were discovered. CQA confirmed that the double containment pneumatic testing met construction specifications. In addition, ESI pneumatically testing the 2-in leak detection pipe.

TWS also placed structural fill over the northeast half of Tank #4. The backfill was placed with a CAT 330 excavator and compacted using a CAT 312 excavator aided by a hoe-pack attachment and a water truck. CQA tested and verified that lift 1 met construction specifications.

Stratton Survey was on-site to capture the as-built design coordinates.

ENVIROTECH-CQA

9/20/10 DATE

M1 Page 269 of 376





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-157 |
|----------------|-------------------------|---------------|----------------|-----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Friday, September 17, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Overcast: Hi: 79°F Lo: 58°F |
| | | | | Wind: 17-mph Rain |

| | FIEL | D NOTEBOOKS | |
|--------------------|--------------|-----------------|----------------|
| Joe Voss Book 2 | Page: 91 | Luke Hay Book 2 | Pages: 151-152 |
| James Schut Book 2 | Pages: 33-35 | | |

| FIELD TESTING | | | | | |
|--|------------|----------------|--------|--|--|
| Submittal 5-18B Fank 4 Drain Line Trench | Lifts: 1-4 | T4-07 to T4-10 | Passed | | |
| Submittal 5-18B Tank 4 Leak Detection | Lifts: 1-3 | T4-11 to T4-13 | Passed | | |
| Pipe Trench | | | | | |
| Submittal 5-18B Tank 4 Inlet Pipe Trench | Lifts: 1-5 | T4-14 to T4-18 | Passed | | |

| | LABORATORY TESTING | |
|------------------------------|--------------------|-------------------------|
| 5-18K Type A Drainage Gravel | DG-A-17A | Perm and USCS: On-going |

GENERAL ACTIVITIES

- 1.0 Secondary Geomembrane Repair The soft patch on the south half of Cell 10 remains, CQA shall continue to track the soft spot in the admix near panels S-118 in Cell 10.
- 2.0 Storm water TWS continued pumping storm water from Cell 9 and Cell 10 sumps. TWS removed all the storm water from the Cell 9 and 10 sumps, and CQA verified that he subgrade under the sumps was firm and continued to meet construction specifications.

CONSTRUCTION ACTIVITIES

- 1.0 Primary Geomembrane -CQA witnessed ESI conducting extrusion repairs on the primary geomembrane in Cells 9 and 10. After the repairs were completed CQA witnessed ESI performing vacuum testing on the repairs.
- 2.0 Primary Geotextile CQA witnessed ESI deploying twenty-three (23) rolls of 16 oz. primary geotextile on the floor of Cell 9 from near the Cell 8/9 tie-in, though Cell 9 and over to primary panel P14 in Cell 10. No geotextile was placed in the Cell 9 sump. ESI either sewed or double wedge welded the geotextile panels together on the floor of Cell 9 and 10.
- 3.0 Tank 4 Continued TWS placed and compacted four (4) lifts of soil over the 8x4-in drain line, three (3) lifts of soil over the 2-in leak detection line, and five (5) lifts of soil over the 16x10-in inlet pipe. The backfill was placed with a CAT D4 dozer and compacted using a CAT 312 excavator, a CAT 563 smooth drum where able, and a jumping jack hand compactor where necessary. CQA tested and verified that lifts 1-4 over the 8x4-in drain line, lifts 1-3 over the 2-in leak detection line, and lifts 1-5 over the 16x10-in inlet pipe met construction specifications.

Stratton Survey was on-site to capture the as-built design coordinates and the Tank 4 pipes.

ENVIROTECH - CQA

9/24/10 DATE

M1 Page 270 of 376

PAGE LOF I





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-158 |
|----------------|-------------------------|---------------|----------------------------|-----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Monday, September 20, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Overcast: Hi: 74°F Lo: 53°F |
| Committee | | | None and the second second | Wind: 34-mph Rain: 0.19-in |

| FIELD NOTEBOOKS | | | | |
|--------------------|--------------|-----------------------|----------------|--|
| Joe Voss Book 2 | Pages: 92-93 | Luke Hay Book 2 | Pages: 153-154 | |
| James Schut Book 2 | Pages: 36-37 | Tyler Williams Book 3 | Pages: 60-61 | |

| FIELD TESTING | | | | | |
|--|------------|----------------|--------|--|--|
| Submittal 5-18B Tank 4 Inlet Pipe Trench | Lifts: 6-7 | T4-19 to T4-20 | Passed | | |
| Submittal 5-18B Tank 4 NE Foundation | Lift: 2 | T4-21 | Passed | | |

| | LABORATORY' | Testing |
|------------------------------|-------------|-------------------------|
| 5-18K Type A Drainage Gravel | DG-A-17A | Perm and USCS: On-going |

GENERAL ACTIVITIES

- 1.0 Secondary Geomembrane Repair The soft patch on the south half of Cell 10 remains. CQA shall continue to track the soft spot in the admix near panels S-118 in Cell 10.
- 2.0 Storm water Rain though out the weekend caused the Cells 9 and 10 sumps to fill with storm water. TWS began pumping storm water from Cell 9 and Cell 10 sumps. CQA verified that the subgrade under the sumps was firm and continued to meet construction specifications.
- 3.0 High Winds High winds limited geotextile placement in Cell 10.

- 1.0 Primary Geomembrane –CQA witnessed ESI conducting extrusion repairs on the primary geomembrane in Cell 10. After the repairs were completed CQA witnessed ESI performing vacuum testing on the repairs.
 - CQA failed Cell 10 destructive test DP-09 on seam P18/P19. ESI and CQA collected destructive tests on either side of the failed test in order to determine the extents of the failed seam. After the extents of the failed seam were verified by additional destructive testing. ESI capped the seam between two passing destructive tests.
- 2.0 Primary Geotextile -ESI deployed only one (1) roll of 16 oz. primary geotextile on the floor of Cell 10. Geotextile placement was halted due to high winds.
- 3.0 Primary Geocomposite –ESI deployed twenty-two (22) panels of primary geocomposite over the north slope of Cell 9. CQA witnessed ESI joining the geocomposite together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together and leistering patches over the butt seams.





| Project ID: | 01-0032 ERDF Cells 9-11 |) Construction | Report Number: | 5-16-158 |
|----------------|--|----------------|--|-----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Monday, September 20, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Overcast: Hi: 74°F Lo: 53°F |
| | Name of the second of the seco | | out of the second of the secon | Wind: 34-mph Rain: 0.19-in |

CONSTRUCTION ACTIVITIES

- 4.0 <u>Drainage Gravel</u> CQA observed TWS spreading the stockpiled excess drainage gravel in Cell 9 over the primary geotextile on the floor of Cell 9 with a CAT D6 LGP dozer.
- 5.0 Leachate Collection Pipe CQA witnessed BMWC welding the Cell 9 primary collection pipe in the BMWC lay down area located to the east of Cell 10.
- 6.0 <u>Tank 4 Continued</u> TWS placed and compacted two (2) lifts of soil over the Tank 4- 16x10-in inlet pipe and one (1) lift of soil over the northeast half of Tank 4. The backfill was placed with a CAT D4 dozer and compacted using a CAT 312 excavator, a CAT 563 smooth drum where able, and a jumping jack hand compactor where necessary. CQA tested and verified that lifts 6-7 over the 16x10-in inlet pipe and lift 2 on the northeast half of the Tank 4 foundation metoconstruction specifications.
- 7.0 Manholes Lids and risers for the manholes in the Tank area arrived on-site. BMWC began installing the manhole riser and lids for the manholes in the Tank area.

ENVIROTECH - CQA DATE

M1 Page 272 of 376





| Project ID: 01 | -0032 ERDF Cells 9-10 Co | nstruction | Report Number: | 5-16-159 |
|-------------------|--------------------------|---------------|----------------|---|
| Job Number: SC |)13213A00 | Staff On-site | Date: | Tuesday, September 21, 2010 |
| Contractor(s): Tr | radeWind Services | 6 | Weather: | Overcast: Hi: 72°F Lo: 51°F Wind: 20-mph Rain: 0.05-in |

| FIELD NOTEBOOKS | | | | | |
|--|--|--|--|--|--|
| Joe Voss Book 2 Pages: 94-96 Luke Hay Book 2 Pages: 155-157 | | | | | |
| James Schut Book 2 Pages: 38-39 Tyler Williams Book 3 Pages: 62-65 | | | | | |

| | FIELD TESTING | | |
|--------------------------------|----------------|----------------|--------|
| Submittal 5-18B Tank 4Ringwall | Lift: Subgrade | T4-22 to T4-23 | Passed |

| CQA HOLD POINTS | | | | |
|-------------------------------------|--------------------|----------------------|--|--|
| Submittal 5-18R-098 Cell 10 Primary | September 21, 2010 | Panels: P-49 to P-52 | | |
| Subgrade | | | | |

| LABORATORY TESTING | | | | |
|------------------------------|----------|-------------------------|--|--|
| 5-18K Type A Drainage Gravel | DG-A-17A | Perm and USCS: On-going | | |

GENERAL ACTIVITIES

- 1.0 Secondary Geomembrane Repair The soft patch on the south half of Cell 10 remains, CQA shall continue to track the soft spot in the admix near panels S-118 in Cell 10.
- 2.0 Storm water –TWS continued pumping storm water from Cell 9 and Cell 10 sumps. CQA verified that he subgrade under the sumps was firm and continued to meet construction specifications.
- 3.0 Weekly Progress Meeting CQA attended the construction subcontractor's weekly progress meeting on Tuesday, September 21st, 2010 at 10:00 am. in the meeting trailer.
- 4.0 CQA Weekly Progress Meeting CQA attended the CQA subcontractor's weekly progress meeting on Tuesday, September 21st, 2010 at 10:15 am in the meeting trailer.
- 5.0 Equipment Damage During spreading of the drainage gravel in Cell 9, the Hitachi 200 listed to the side and the operator placed the bucket on a 6-in thick layer of drainage gravel to compensate. Upon investigation, ESI and CQA found the liner to be damaged. The location was repaired, tested and surveyed by Stratton Survey.

CONSTRUCTION ACTIVITIES

1.0 <u>Secondary Geomembrane</u> - Stratton Survey was on-site to perform the as-built survey on the Cell 10 secondary geomembrane.





| Project ID: | 01-0032 ERDF Cells 9-10 |) Construction | Report Number: | 5-16-159 |
|----------------|-------------------------|----------------|--|-----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Tuesday, September 21, 2010 |
| Contractor(s): | TradeWind Services | 6 | Weather: | Overcast: Hi: 72°F Lo: 51°F |
| | | | the construction of the co | Wind: 20-mph Rain: 0.05-in |

CONSTRUCTION ACTIVITIES

2.0 Primary Geomembrane -CQA witnessed ESI conducting extrusion repairs on the primary geomembrane in Cell 10.

After the repairs were completed CQA witnessed ESI performing vacuum testing on the repairs.

CQA failed Cell 10 primary destructive test DP-29 on seam P45/P47. ESI and CQA collected destructive tests on either side of the failed test in order to determine the extents of the failed seam. After the extents of the failed seam were verified by additional destructive testing, ESI capped the seam between two passing destructive tests.

CQA also witnessed ESI deploying four (4) panels of primary geomembrane in Cell 10. ESI deployed panels P-49 to P-52 on the floor of Cell 10 south of the deployed primary geomembrane in Cell 10 along the Cell 9 tie-in. The panels were deployed from east to west across Cell 10, from the Cell 10 termination to the Cell 9/10 tie-in. After the panels were deployed, CQA observed ESI utilizing one (1) double wedge welders to weld all panels together.

Stratton Survey was on-site to perform the as-built survey on the Cells 9 and 10 primary geomembrane.

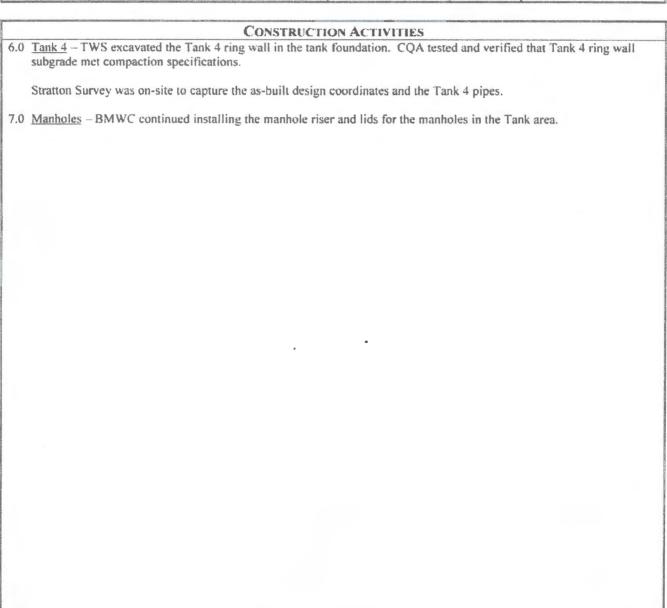
- 3.0 Primary Geocomposite -ESI deployed fifteen (15) panels of primary geocomposite over the north slope of Cell 9 from panel P-50 to panel P-54. CQA witnessed ESI joining the geocomposite together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together and leistering patches over the butt seams.
- 4.0 Primary Geotextile CQA witnessed ESI deploying eleven (11) rolls of 16 oz. primary geotextile on the floor of Cell 10 from primary panel P14 to primary panel P17. No geotextile was placed in the Cell 10 sump. ESI either sewed or double wedge welded the geotextile panels together on the floor of Cell 9 and 10.
- 5.0 <u>Drainage Gravel</u> TWS continued to place Type A gravel in Cells 9 and 10. TWS began placing the Cell 9 north gravel haul road running from grid H6 to grid D2. After the Cell 9 north haul road was in-place, TWS spread the gravel over the Cell 9 floor.

CQA observed TWS hauling Type A drainage gravel from the stockpile southeast of Cell 10 in payhaulers to the Cell 10 floor. The payhaulers backed onto the 7-fl high gravel road, making no sudden movements or turns, and unloaded Type A gravel onto the haul road. The gravel was stockpiled at the end of the road by a CAT D6 LGP dozer. A Hatachi 200 and a CAT 312 excavator constructed a 7-fl high gravel haul road across Cell 9, spreading the gravel onto the Cell 9 floor as to trap the smaller wrinkles before the propagated into larger wrinkles. After lunch, TWS utilized two (2) CAT D6 LGP dozers began to spread the stockpiled drainage gravel across Cell 9 in a 1-fl high lift. The gravel was compacted and track-walked concurrently with spreading operations. During the placement of Type A gravel, CQA continuously observed gravel placement, and a TWS laborer was present to address any trapped wrinkles or other deficiencies.





| Project ID: | 01-0032 ERDF Cells 9-10 G | Construction | Report Number: | 5-16-159 |
|----------------|---------------------------|---------------|----------------|-----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Tuesday, September 21, 2010 |
| Contractor(s): | TradeWind Services | 6 | Weather: | Overcast: Hi: 72°F Lo: 51°F |
| | Andrews . | | association | Wind: 20-mph Rain: 0.05-in |



ENVIROTECH-CQA

DATE DATE

M1 Page 275 of 376

PAGE 3 OF 3





| Project ID: | 01-0032 ERDF Cells 9-1 | 0 Construction | Report Number: | 5-16-160 |
|----------------|------------------------|----------------|----------------|-------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Wednesday, September 22, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Overcast: Hi: 73°F Lo: 49°F |
| 000 | delination | | | Wind: 14-mph |

| FIELD NOTEBOOKS | | | | |
|---------------------|--------------|-----------------------|--------------|--|
| Joe Voss Book 2 | Pages: 97-98 | Luke Hay Book 2 | Page: 158 | |
| Ryan Swenson Book 1 | Pages: 43-44 | Tyler Williams Book 3 | Pages: 66-70 | |

| | LABORATORY TESTING | |
|------------------------------|--------------------|-------------------------|
| 5-18K Type A Drainage Gravel | DG-A-17A | Perm and USCS: On-going |

GENERAL ACTIVITIES

- 1.0 Secondary Geomembrane Repair The soft patch on the south half of Cell 10 remains, CQA shall continue to track the soft spot in the admix near panels S-118 in Cell 10.
- 2.0 Storm water -TWS completed pumping storm water from Cell 9 and Cell 10 sumps. CQA verified that he subgrade under the sumps was firm and continued to meet construction specifications.
- 3.0 Geomembrane On September 21, 2010, a spool of LLDPE welding rod was brought into Cell 10 for the purpose of performing extrusion repairs. CQA noted the presence of the welding rod the morning of September 22, 2010, after ESI had completed the first repair that day. CQA tracked and verified that the welding rod was first used the morning of September 22, 2010 and only one (1) repair was performed with the LLDPE extrusion rod.

ESI returned the LLDPE welding rod to the liner holding area. ESI capped the non-conforming patch with an HDPE welded patch. ESI met with the welders to ensure HDPE welding rod is tised for HDPE welding operations.

- 1.0 <u>Secondary Geomembrane</u> Stratton Survey was on-site to perform the as-built survey on the Cell 10 secondary geomembrane.
- 2.0 Primary Geomembrane -CQA witnessed ESI conducting extrusion repairs on the primary geomembrane in Cell 10. After the repairs were completed CQA witnessed ESI performing vacuum testing on the repairs.
 - In addition, CQA observed ESI extrusion welding the primary to the secondary geomembrane on the floor of the Cell 10 termination. ESI also welded and tested the Cell 9 secondary riser pipe boots through the primary geomembrane in the Cell 9 anchor trench.
- 3.0 Primary Geotextile CQA witnessed ESI deploying twenty-four (24) rolls of 16 oz. primary geotextile on the floor of Cell 10 from primary panel P-17 to primary panel P-24. No geotextile was placed in the Cell 10 sump. ESI either sewed or double wedge welded the geotextile panels together on the floor of Cell 9 and 10.





| Project ID: | 01-0032 ERDF Cells 9-10 |) Construction | Report Number: | 5-16-160 |
|----------------|-------------------------|----------------|----------------|-------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Wednesday, September 22, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Overcast: Hi: 73°F Lo: 49°F |
| | - | | | Wind: 14-mph |

CONSTRUCTION ACTIVITIES

- 4.0 Primary Geocomposite -ESI deployed eighteen (18) panels of primary geocomposite over the north slope of Cell 9 from panel P-54 to panel P-59. CQA witnessed ESI joining the geocomposite together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together.
- 5.0 <u>Drainage Gravel</u> TWS continued to place Type A gravel in Cells 9 and 10. TWS completed placing the Cell 9 north gravel haul road running from grid H6 to grid D2. TWS also placed Cell 10 northeast gravel haul road from grid H6 to D10. TWS continued to spread the gravel over the Cell 9 floor.
 - CQA observed TWS hauling Type A drainage gravel from the stockpile southeast of Cell 10 in payhaulers to the Cell 10 floor. The payhaulers backed onto the 7-ft high gravel road, making no sudden movements or turns, and unloaded Type A gravel onto the haul road. The gravel was stockpiled at the end of the road by a CAT D6 LGP dozer. A CAT 312 excavator constructed a 7-ft high gravel haul road across Cell 10, spreading the gravel onto the Cell 9 floor as to trap the smaller wrinkles before the propagated into larger wrinkles. With the aid of laborers, TWS utilized two (2) CAT D6 LGP dozers began to spread the stockpiled drainage gravel across Cell 9 in a 1-ft high lift. The gravel was compacted and track-walked concurrently with spreading operations. During the placement of Type A gravel, CQA continuously observed gravel placement, and a TWS laborer was present to address any trapped wrinkles or other deficiencies.
- 6.0 Manholes Lids and risers for additional manholes arrived on-site. BMWC continued installing the manhole riser and lids for the manholes in the leachate transmission system.

ENVIROTECH - CQA DATE

M1 Page 277 of 376





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction · | Report Number: | 5-16-161 |
|----------------|-------------------------|----------------|----------------|------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Thursday, September 23, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Overcast: Hi: 65°F Lo: 49°F |
| | ander tool | | | Wind: 20-mph Rain: 0.07-in |

| | FIEL | D NOTEBOOKS | |
|--------------------|---------------|-----------------------|--|
| Joe Voss Book 2 | Pages: 99-100 | Luke Hay Book 3 | Pages: 1-2 |
| James Schut Book 2 | Pages: 40-41 | Tyler Williams Book 3 | Pages: 71-73 |
| Ryan Swenson | Page: 45 | Vanish of the | and the section of th |

| | LABORATORY TESTING | |
|------------------------------|--------------------|-------------------------|
| 5-18K Type A Drainage Gravel | DG-A-17A | Perm and USCS: On-going |

GENERAL ACTIVITIES

- 1.0 Secondary Geomembrane Repair The soft patch on the south half of Cell 10 remains, CQA shall continue to track the soft spot in the admix near panels S-118 in Cell 10.
- 2.0 Storm water Rain fell thought the afternoon on-site, partially filling both sumps with storm water.

- 1.0 <u>Secondary Geomembrane</u> Stratton Survey was on-site to perform the as-built survey on the Cell 10 secondary geomembrane.
- 2.0 Primary Geomembrane –CQA witnessed ESI conducting extrusion repairs on the primary geomembrane in Cell 10. After the repairs were completed CQA witnessed ESI performing vacuum testing on the repairs.
 - In addition, CQA observed ESI extrusion welding the primary to the secondary geomembrane on the floor of the Cell 10 termination. After the north half of the Cell 10 floor termination was welded. ESI vacuum tested the weld.
- 3.0 Primary Geocomposite -ESI deployed eighteen (18) panels of primary geocomposite over the north slope of Cell 9 from panel P-59 to Cell 10 panel P-12. CQA witnessed ESI joining the geocomposite together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together.





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-161 |
|----------------|-------------------------|---------------|----------------|---|
| Job Number: | S013213A00 | Staff On-site | Date: | Thursday, September 23, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Overcast: Hi: 65°F Lo: 49°F Wind: 20-mph Rain: 0.07-in |

CONSTRUCTION ACTIVITIES

- 4.0 Drainage Gravel TWS continued to place Type A gravel in Cells 9 and 10. TWS completed placing the Cell 10 northeast gravel haul road running from grid H6 to grid D10. After TWS completed the haul road, TWS placed Cell 10 north gravel haul road from grid H6 to D6. TWS continued to spread the gravel over the Cell 9 floor.
 - COA observed TWS hauling Type A drainage gravel from the stockpile southeast of Cell 10 in payhaulers to the Cell 10 floor. The payhaulers backed onto the 7-ft high gravel road, making no sudden movements or turns, and unloaded Type A gravel onto the haul road. The gravel was stockpiled at the end of the road by a CAT D6 LGP dozer. A CAT 312 excavator constructed a 7-ft high gravel haul road across Cell 10, spreading the gravel onto the Cell 9 floor as to trap the smaller wrinkles before the propagated into larger wrinkles. With the aid of laborers, TWS utilized two (2) CAT D6 LGP dozers began to spread the stockpiled drainage gravel across Cell 9 in a 1-ft high lift. The gravel was compacted and track-walked concurrently with spreading operations. During the placement of Type A gravel, CQA continuously observed gravel placement, and a TWS laborer was present to address any trapped wrinkles or other deficiencies.
- 5.0 Tank 4 Continued TWS began placing the concrete forms into the Tank 4 ring wall trench for the concrete pour scheduled for next week.
- 6.0 Manholes Lids and risers for additional manholes arrived on-site. BMWC continued installing the manhole riser and lids for the manholes in the leachate transmission system.





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-162 |
|---|--------------------------------------|---------------|----------------|-----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Friday, September 24, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Overcast: Hi: 74°F Lo: 46°F |
| 000000000000000000000000000000000000000 | | | | Wind: 14-mph |

| FIELD NOTEBOOKS | | | | | | | |
|---|--------------|-----------------------|--------------|--|--|--|--|
| Joe Voss Book 2 Pages: 101-102 Luke Hay Book 3 Pages: 3-5 | | | | | | | |
| James Schut Book 2 | Pages: 42-44 | Tyler Williams Book 3 | Pages: 74-76 | | | | |
| Ryan Swenson | Pages: 46-50 | | | | | | |

| 900000000 | | LABORATORY TESTING | |
|---|------------------------------|--------------------|-------------------------|
| 200000000000000000000000000000000000000 | 5-18K Type A Drainage Gravel | DG-A-17A | Perm and USCS: On-going |

GENERAL ACTIVITIES

- 1.0 Secondary Geomembrane Repair The soft patch on the south half of Cell 10 remains, CQA shall continue to track the soft spot in the admix near panels S-118 in Cell 10.
- 2.0 Storm water Storm water remains in both Cell 9 and Cell 10 sumps.

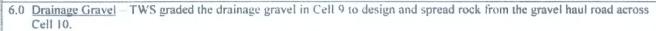
- 1.0 Subgrade CQA observed TWS removing the stormwater that had gathered on the subgrade in the center of Cell 10 in the gap between the admix. TWS utilized a CAT 312 excavator to remove the non-conforming material. The water/soil mixture was loaded into payhaulers and placed outside the east termination of the Cell. TWS then used the CAT 312 excavator to cover the water/soil mixture with dry soil.
- 2.0 <u>Secondary Geomembrane</u> CQA observed ESI welding a 5-ft extension onto the secondary geomembrane panel S-63 in the north anchor trench of Cell 10 to match design drawings.
- 3.0 Primary Geomembrane ESI began construction of the rainflap detail on the north slope of Cell 10. CQA observed ESI cutting the primary geomembrane and extrusion welding the leading edge of the primary geomembrane to the secondary geomembrane. ESI shall complete the rainflap detail at a later date.
- 4.0 <u>Primary Geocomposite</u> –ESI deployed twenty-five (25) panels of primary geocomposite over the north slope of Cell 10 from panel P-12 to Cell 10 panel P-18. CQA witnessed ESI joining the geocomposite together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together.
- 5.0 <u>Primary Geotextile</u> CQA witnessed ESI deploying three (3) rolls of 16 oz. primary geotextile on the floor of Cell 10 from primary panel P-24 to the Cell 10 termination. ESI either sewed or double wedge welded the geotextile panels together on the floor of Cell 9 and 10.





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-162 |
|----------------|--------------------------------------|---------------|----------------|-----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Friday, September 24, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Overcast: Hi: 74°F Lo: 46°F |
| | and deliveration | | | Wind: 14-mph |

CONSTRUCTION ACTIVITIES



With the aid of laborers, TWS utilized two (2) CAT D6 LGP dozers to spread the stockpiled drainage gravel on both the north and northeast haul roads across the north half of Cell 10 in a 1-ft high lift. The gravel was compacted and track-walked concurrently with spreading operations. During the placement of Type A gravel, CQA continuously observed gravel placement, and a TWS laborer was present to address any trapped wrinkles or other deficiencies.

| 7.0 | Tank 4 Continued | -TWS | began plac | ing the | concrete | forms | into the | Tank 4 | ringwall | trench | for the | concrete | pou |
|-----|--------------------|-------|------------|---------|----------|-------|----------|--------|----------|--------|---------|----------|-----|
| | scheduled for next | week. | | | | | | | | | | | |

ENVIROTECH-CQA

9/21/10 DATE

M1 Page 281 of 376





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-163 |
|----------------|--|---------------|----------------|-------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Monday, September 27, 2010 |
| Contractor(s): | TradeWind Services | 7 | Weather: | Pt. Cloudy: Hi: 87°F Lo: 55°F |
| | and the second s | | | Wind: 11-mph |

| FIELD NOTEBOOKS | | | | | | | |
|--|--------------|-----------------------|--------------|--|--|--|--|
| Joe Voss Book 2 Pages: 103-104 Luke Hay Book 3 Page: 6 | | | | | | | |
| James Schut Book 2 | Pages: 45-48 | Tyler Williams Book 3 | Pages: 77-79 | | | | |
| Ryan Swenson | Page: 51 | | THE CANA | | | | |

| - | | LABORATORY TESTING | |
|---|------------------------------|--------------------|-------------------------|
| | 5-18K Type A Drainage Gravel | DG-A-17A | Perm and USCS: On-going |

GENERAL ACTIVITIES

- 1.0 Secondary Geomembrane Repair The soft patch on the south half of Cell 10 remains, CQA shall continue to track the soft spot in the admix near panels S-118 in Cell 10.
- 2.0 Storm water Storm water remains in both Cell 9 and Cell 10 sumps.
- 3.0 Ground Penetrating Radar CQA was notified that the ground penetrating radar discovered no evidence of rutting under the drainage gravel haul roads in Cells 9 or 10.

CONSTRUCTION ACTIVITIES

- 1.0 Secondary Geomembrane CQA observed ESI conducting non-destructive testing on the Cell 10 secondary geomembrane on the south slope and floor of Cell 10.
- 2.0 Primary Geocomposite –ESI deployed fourteen (14) panels of primary geocomposite over the north slope of Cell 10. CQA witnessed ESI joining the geocomposite together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together.
- 3.0 <u>Leachate Collection Pipe</u> CQA observed TWS excavating the drainage gravel from the Cell 10 center line with two (2) labors and a CAT 312 excavator. After the drainage gravel was removed, BMWC and TWS installed the 12-in leachate collection pipe in the north half of Cell 10. The pipe was dragged into place from the center access road in Cell 10.

Stratton Surveying was on-site to as-built the leachate collection pipe location.





| Project ID: | 01-0032 ERDF Cells 9-10 |) Construction | Report Number: | 5-16-163 |
|---|-------------------------|----------------|----------------|-------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Monday, September 27, 2010 |
| Contractor(s): | TradeWind Services | 7 | Weather: | Pt. Cloudy: Hi: 87°F Lo: 55°F |
| 000000000000000000000000000000000000000 | | | | Wind: 11-mph |

CONSTRUCTION ACTIVITIES

4.0 <u>Drainage Gravel</u> – TWS trimmed the drainage gravel in Cell 9 and 10 to grade with two (2) D6 LGP GPS dozers. After the 12-in leachate collection pipe was installed in Cell 10, CQA observed TWS placing a 1-ft high berm over the pipe as per the design drawings.

Stratton Surveying was on-site to verify the drainage gravel thickness in Cells 9 and 10.

The WCH GPR technician was on-site to perform a survey of the Cell 10 northeast haul road.

In addition, CQA observed TWS removing a portion of the primary drainage gravel entrance in grid H6 with the CAT 330 excavator.

- 5.0 8oz. Geotextile CQA witnessed ESI deploying eighteen (18) rolls of 8 oz. geotextile over the primary drainage gravel on the floor of Cell 10 from primary panel P-24 to the Cell 10 termination. ESI either sewed the geotextile panels together on the floor of Cell 9 and 10. The panels were placed as to allow TWS to place the north operations haul road across Cell 10, running east-west across Cells 9 and 10, approximately 20-ft south of the sumps. Partial deployed rolls were left on the Cell 9/10 tie-in: TWS shall deploy the partial rolls at a later date.
- 6.0 Operations Soil TWS constructed the north operations ramp 60-ft south of the north toe of slope on the Cell 10 termination. TWS then constructed the north operations hauf road 10-ft high and 40-wide running east to west across Cells 9 and 10, approximately 20-ft south of the sumps. Approximately 50-ft of hauf road was constructed starting at the termination of Cell 10 to approximately 50-ft from the termination.

To construct the north operations ramp. TWS placed scrap geosynthetics and plywood over the Cell 10 termination. TWS then placed operations soil over the protective materials until a 10-ft high ramp with a turn area outside of Cell 10 was constructed. The soil was placed in lifts with two (2) payhaulers, a CAT D6 dozer spread the soil, a water truck moisture conditioning the fill, and a CAT 563 compacting each lift. After the ramp was constructed, two (2) payhaulers hauled soil to the north operations haul road. The payhaulers turned around on the ramp outside of the Cells, and backed slowly over the road, making no sudden movements. The soil was stockpiled at the end of the road, where a CAT D6 dozer spread the soil as a 10-ft high road across Cell 9.

- 7.0 Crest Pad Building BMWC installed the pipe supports for the Crest Pad 9 piping.
- 8.0 Tank 4 TWS continued placing the concrete forms into the Tank 4 ringwall trench.

ENVIROTECH-CQA DATE





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-164 |
|----------------|-------------------------|---------------|----------------|---|
| Job Number: | S013213A00 | Staff On-site | Date: | Tuesday, September 28, 2010 |
| Contractor(s): | TradeWind Services | 6 | Weather: | Overcast: Hi: 90°F Lo: 57°F Wind: 27-mph |

| FIELD NOTEBOOKS | | | | |
|--------------------|----------------|-----------------------|--------------|--|
| Joe Voss Book 2 | Pages: 105-106 | Luke Hay Book 3 | Pages: 7-8 | |
| James Schut Book 2 | Pages: 49-51 | Tyler Williams Book 3 | Pages: 80-81 | |

| FIELD TESTING | | | | | |
|--------------------------------|--|------------------|--------|--|--|
| Submittal 5-18C Admix Subgrade | | SG-103 to SG-107 | Passed | | |

| CQA HOLD POINTS | | | | |
|--------------------------------------|--------------------|--------------------------------|--|--|
| Submittal 5-18R-099 Cell 10 Subgrade | September 28, 2010 | Grids: H7, H8, H9, H10, and I7 | | |

| | LABORATORY TESTING | |
|------------------------------|--------------------|-------------------------|
| 5-18K Type A Drainage Gravel | DG-A-17A | Perm and USCS: On-going |

GENERAL ACTIVITIES

- 1.0 Secondary Geomembrane Repair The soft patch on the south half of Cell 10 remains, CQA shall continue to track the soft spot in the admix near panels S-118 in Cell 10.
- 2.0 Storm water Storm water remains in both Cell 9 and Cell 10 sumps.
- 3.0 Ground Penetrating Radar CQA was notified that the ground penetrating radar discovered no evidence of rutting under the Cell 10 northeast drainage gravel haul road.
- 4.0 Weekly Progress Meeting CQA attended the construction subcontractor's weekly progress meeting on Tuesday, September 28th, 2010 at 10:00 am. in the meeting trailer.
- 5.0 CQA Weekly Progress Meeting CQA attended the CQA subcontractor's weekly progress meeting on Tuesday, September 28th, 2010 at 10:15 am in the meeting trailer.

CONSTRUCTION ACTIVITIES

1.0 Subgrade – TWS removed the saturated admix/soil mixture that had accumulated on the Cell 9 access road that bisected Cell 10. The soil was stockpiled with a CAT D6 dozer, loaded into payhaulers with a CAT 988 front-end loader, and removed from the Cells. Fresh soil was placed onto the subgrade, moisture conditioned, and compacted with the CAT 563 smooth drum roller. CQA verified that the subgrade met compaction specifications.

Stratton Surveying was on-site to verify that the subgrade met the design drawings.





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-164 |
|----------------|--|---------------|----------------|-----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Tuesday, September 28, 2010 |
| Contractor(s): | TradeWind Services | 6 | Weather: | Overcast: Hi: 90°F Lo: 57°F |
| | the control of the co | | | Wind: 27-mph |

CONSTRUCTION ACTIVITIES

- 2.0 <u>Secondary Geomembrane</u> CQA observed ESI conducting non-destructive testing on the Cell 10 secondary geomembrane on the south slope of Cell 10.
- 3.0 Secondary Geocomposite ESI deployed thirteen (13) panels of secondary geocomposite over the south slope of Cell 10 from the Cell 7/9 tie-in to the east to panel S-4. CQA witnessed EIS joining the geocomposite together with plastic zip ties as pre construction specifications, no butt seams were completed.
- 4.0 Primary Geocomposite -ESI deployed two (2) panels of primary geocomposite over the south slope of Cell 9. CQA witnessed ESI joining the geocomposite together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together and leistering patches over the butt seams.
- 5.0 Leachate Collection Pipe CQA observed TWS excavating the drainage gravel from the Cell 9 center line with two (2) labors and a CAT 312 excavator. After the drainage gravel was removed and a geocomposite strip was placed over the primary geomembrane, BMWC and TWS installed the 12-in leachate collection pipe and cleanout riser down the south slope and across the floor to approximately 60-ft south of the Cell 10 sump. The pipe was walked down the slope by laborers and dragged across Cell 9 with the aid of the CAT 312 excavator.

Stratton Surveying was on-site to as-built the leachate collection pipe location.

- 6.0 <u>Drainage Gravel</u> TWS trimmed the drainage gravel in Cell 9 and 10 to grade with two (2) D6 LGP GPS dozers. CQA also observed TWS utilizing a CAT D6 LGP dozer to spread the stockpiled drainage gravel at the Cell 9 access ramp across Cell 10, staging the gravel for future placement in Cell 10.
- 7.0 8oz. Geotextile CQA witnessed ESI deploying the partial 8 oz. geotextile left rolled up on the Cell 9/10 tie-in. The rolls were deployed west to the edge of the Cell 10 leachate collection pipe berm. ESI sewed the geotextile panels together on the floor of Cell 9 and 10. The panels were placed as to allow TWS to place the north operations haul road across Cell 10, running east-west across Cells 9 and 10, approximately 20-ft south of the sumps.
- 8.0 Operations Soil TWS continued constructing the north operations haul road east to west, approximately 20-ft south of the Cell 10 sump. The road was placed 10-ft high and 40-ft wide to approximately 60-ft past the Cell 10 centerline.
 - Three (3) payhaulers hauled soil to the north operations haul road. The payhaulers turned around on the ramp outside of the cells, and backed slowly over the road, making no sudden movements. The soil was stockpiled at the end of the road, where a CAT D6 dozer spread the soil as a 10-ft high road across Cell 9.
- 9.0 Crest Pad Building BMWC installed the pipe supports for the Crest Pad 10 piping.
- 10.0 Tank 4 TWS continued placing the concrete forms into the Tank 4 ringwall trench.

ENVIROTECH-CQA

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M1 Page 285 of 376





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-165 |
|--|-------------------------|---------------|----------------|-------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Wednesday, September 29, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Overcast: Hi: 77°F Lo: 56°F |
| the state of the s | The second | | | Wind: 16-mph |

| FIELD NOTEBOOKS | | | | | |
|--------------------|----------------|-----------------------|--------------|--|--|
| Joe Voss Book 2 | Pages: 107-109 | Luke Hay Book 3 | Pages: 9-15 | | |
| James Schut Book 2 | Pages: 52-56 | Tyler Williams Book 3 | Pages: 82-88 | | |

| FIELD TESTING | | | | | |
|---------------------------------------|----------------------|--------------------|------------------------|--|--|
| Submittal 5-18J Cell 10:Admix Testing | Lifts: 1-6 | SL-1007 to SL-1018 | Passed | | |
| Submittal 5-18J Admix Field Testing | Lift No. 3 – Cell 10 | SL-1012 | Shelby Tube Collected: | | |
| Permeability | Center Haul Road | | Perm: On-going | | |

| 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | LABORATORY TESTING | |
|---------------------------------------|--------------------|-------------------------|
| 5-18K Type A Drainage Gravel | DG-A-17A | Perm and USCS: On-going |

GENERAL ACTIVITIES

- 1.0 Secondary Geomembrane Repair CQA investigated and the soft patch on the south half of Cell 10 has healed significantly, reducing in size. CQA shall continue to track the soft spot in the admix near panel S-118 in Cell 10.
- 2.0 Evacuation/Take Cover Drill CQA was part of the evacuation drill that was transformed into a take cover drill at 14:20 on Wednesday, September 29th, 2010. The drill lasted for approximately one (1) hour before work resumed.
- 3.0 Work Hours TWS with WCH approval has begun 12 hour shift with Saturday work. CQA met with Dana Looney with WCH to discuss financial coverage for the additional work.
- 4.0 Storm water Storm water remains in both Cell 9 and Cell 10 sumps.

- 1.0 Subgrade TWS moisture conditioned the subgrade of the admix prior to placing admix on the subgrade surface.
- 2.0 <u>Admix Placement</u> CQA observed ESI moisture conditioning the reworking the exposed admix to the north of the secondary geomembrane on the south half of the Cell.
 - CQA observed TWS using a CAT D6 GPS dozers to place admix over the haul road gap in Cell 10, grids 17 and H7. CQA observed TWS using one (1) CAT 825 sheepsfoot compactor to compact the admix. CQA tested and verified that each lift placed was properly moisture conditioned, compacted and that the lift met the contract specifications. The final lift of admix was cut to grade with a D6 GPS dozer and rolled with a CAT 563 smooth drum roller. Please refer to Submittal 5-18J Admix Field Data for lift completion data for all grids.
- 3.0 <u>Secondary Geomembrane</u> CQA observed ESI conducting non-destructive testing on the Cell 10 secondary geomembrane on the south slope of Cell 10.





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-165 |
|----------------|-------------------------|---------------|----------------|-------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Wednesday, September 29, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Overcast: Hi: 77°F Lo: 56°F |
| | | | | Wind: 16-mph |

CONSTRUCTION ACTIVITIES

- 4.0 <u>Secondary Geocomposite</u> ESI deployed sixteen (16) panels of secondary geocomposite over the south slope of Cell 10 from panel S-4 to panel S-10. CQA witnessed EIS joining the geocomposite together with plastic zip ties as per construction specifications, no butt seams were completed.
- 5.0 Primary Geomembrane CQA observed ESI extrusion welding the primary geomembrane to the secondary geomembrane on the north slope of Cell 10 near the rainflap as per construction drawings. ESI also conducted non-destructive testing on the primary-secondary geomembrane weld performed on Tuesday, September 28, 2010. In addition, CQA observed ESI welding the primary pipe boot for the secondary leachate riser pipes located on the shoulder of the Cell 10 slope.
- 6.0 Primary Geocomposite -CQA observed ESI joining the butt seams on the deployed panels on the north slope of Cell 9 as with plastic zip ties per contract specifications. After the joins were completed, CQA verified that the joins met contract specifications.
- 7.0 <u>Leachate Collection Pipe</u> The leachate collection/clean out pipe was installed on Tuesday, September 28, 2010 from the top of the south berm to 100-ft south of the Cell 9 sump. CQA observed TWS constructing the rock berm over the leachate collection pipe in Cell 10 as per construction drawings. The last 20-ft of the pipe was left exposed on the Cell 9 floor. The drainage gravel berm was constructed with a CAT 312 excavator aided the TWS surveyor.
- 8.0 8oz. Geotextile CQA witnessed ESI deploying six (6) rolls of 8 oz. geotextile on the north side of Cell 10. The rolls were deployed south of the operations haul road to the toe of the north slope, where the geotextile was leistered to the primary geocomposite. ESI sewed the geotextile panels together on the floor of Cell 10.
- 9.0 Operations Soil TWS continued constructing the north operations haul road east to west, approximately 20-ft south of the Cell 10 sump. The road was placed 10-ft high and 40-ft wide to approximately 80-ft past the Cell 10 centerline.
 - Two (2) payhaulers hauled soil to the north operations haul road in between hauling admix to the floor of Cell 10. The payhaulers turned around on the ramp outside of the cells, and backed slowly over the road, making no sudden movements. The soil was stockpiled at the end of the road, where a CAT D6 dozer spread the soil as a 10-ft high road across Cell 9.
- 10.0<u>Leachate Transmission Line</u> CQA observed BMWC and TWS installing the manhole risers and fids on the remaining manholes in the leachate collection system.
- 11.0Tank 4 TWS continued placing the concrete forms for the Tank 4 ringwall.

ENVIROTECH-CQA

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| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-166 |
|----------------|--------------------------------------|---------------|----------------|------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Thursday, September 30, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Overcast: Hi: 83°F Lo: 59°F |
| * | | | | Wind: 16-mph |

| FIELD NOTEBOOKS | | | | | |
|--------------------|----------------|-----------------------|--------------|--|--|
| Joe Voss Book 2 | Pages: 110-112 | Luke Hay Book 3 | Pages: 16-21 | | |
| James Schut Book 2 | Pages: 57-59 | Tyler Williams Book 3 | Pages: 89-92 | | |

| FIELD TESTING | | | | |
|---------------------------------------|----------------------|--------------------|----------------|--|
| Submittal 5-18J Cell 10:Admix Testing | Lifts: 1-6 | SL-1019 to SL-1036 | Passed | |
| Submittal 5-18J Admix Field Testing | Lift No. 3 - Cell 10 | SL-1012 | Perm: On-going | |
| Permeability | Center Haul Road | | | |

| LABORATORY TESTING | | | | |
|---|--|--|--|--|
| 5-18K Type A Drainage Gravel DG-A-17A Perm and USCS: On-going | | | | |

GENERAL ACTIVITIES

- 1.0 Secondary Geomembrane Repair The soft patch on the south half of Cell 10 remains. CQA shall continue to track the soft spot in the admix near panels S-118 in Cell 10.
- 2.0 Storm water TWS pumped the stormwater from the Cell 9 sump to the Cell 10 sump.

- 1.0 Admix Placement CQA observed TWS using a CAT D6 GPS dozers to place admix over the haul road gap in Cell 10, grids H-8, H-9, and H10. CQA observed TWS using one (1) CAT 825 sheepsfoot compactors to compact the admix. CQA tested and verified that each lift placed was properly moisture conditioned, compacted and that the lift met the contract specifications. The final lift of admix was cut to grade with a D6 GPS dozer and rolled with a CAT 563 smooth drum roller. Please refer to Submittal 5-18J Admix Field Data for lift completion data for all grids.
- 2.0 <u>Secondary Geomembrane</u> CQA observed ESI conducting non-destructive testing on the Cell 10 secondary geomembrane on the south floor of Cell 10.
- 3.0 Primary Geomembrane CQA observed ESI vacuum testing the primary to secondary extrusion weld near the rainflap. CQA failed primary destructive test DP-35 on the primary to secondary weld. ESI bracketed the test with two (2) passing tests 15-ft to either side of the failed test. The geomembrane was capped between the two (2) passing tests.
- 4.0 <u>Primary Geotextile</u> CQA observed ESI placing one (1) roll of 16 oz. geotextile on the south side of Cell 9 to bring the geotextile up to the toe of the south berm. The panel was sewn to the deployed primary geotextile and leistered to the primary geocomposite.





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-166 |
|--|--------------------------------------|---------------|----------------|------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Thursday, September 30, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Overcast: Hi: 83°F Lo: 59°F |
| THE STATE OF THE S | | | anno | Wind: 16-mph |

CONSTRUCTION ACTIVITIES

- 5.0 Primary Geocomposite—CQA observed ESI joining the butt seams on the deployed panels on the north slope of Cell 9 as with plastic zip ties per contract specifications. After the joins were completed, CQA verified that the joins met contract specifications.
- 6.0 <u>Leachate Collection Pipe</u> CQA observed TWS completing the construction the rock berm over the leachate collection pipe in Cell 10 as per construction drawings. The last 20-ft of the pipe was left exposed on the Cell 9 floor. The drainage gravel berm was constructed with a CAT 312 excavator aided the TWS surveyor. After the berm was constructed, the excess drainage gravel was stockpiled at the edge of the drainage gravel by a CAT D6 LGP dozer. The CAT D6 LGP dozer then began re-grading the drainage gravel on the east side of the leachate collection pipe berm.
- 7.0 <u>Drainage Gravel</u> TWS trimmed the drainage gravel in Cell 9 to grade with one (1) D6 LGP GPS dozers. CQA shall resurvey the drainage gravel to the east of the Cell 9 leachate collection pipe berm.
- 8.0 80z. Geotextile CQA witnessed ESI deploying 18 rolls of 8 oz. geotextile on the north and west sides Cells 9 and 10. ESI sewed the geotextile panels together on the floor of Cell 10.
- 9.0 Operations Soil TWS continued constructing the north operations haul road east to west, approximately 20-ft south of the Cell 10 sump. The road was placed 10-ft high and 40-ft wide to the east side of Cell 9.

Two (2) payhaulers hauled soil to the north operations haul road in between hauling admix to the floor of Cell 10. The payhaulers turned around on the ramp outside of the cells, and backed slowly over the road, making no sudden movements. The soil was stockpiled at the end of the road, where a CAT D8 dozer spread the soil as a 10-ft high road across Cell 9.

10.0Tank 3 - BMWC installed the drain line HDPE manhole and center connection in Tank 3.

11.0Tank 4 - BMWC installed the drain line HDPE manhole and center connection in Tank 4.

TWS completed placing the concrete forms for the Tank 4 ringwall.

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ENWIROTECH-CQA DATE





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-167 |
|----------------|-------------------------|---------------|----------------|-----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Friday, October 1, 2010 |
| Contractor(s): | TradeWind Services | 6 | Weather: | Overcast: Hi: 85°F Lo: 58°F |
| | energy and the second | | | Wind: 13-mph |

| FIELD NOTEBOOKS | | | | |
|--------------------|----------------|-----------------------|--------------|--|
| Joe Voss Book 2 | Pages: 113-114 | Luke Hay Book 3 | Pages: 12-23 | |
| James Schut Book 2 | Pages: 60-61 | Tyler Williams Book 3 | Pages: 93-94 | |

| FIELD TESTING | | | |
|---------------------------------------|----------------------|----------------|----------------|
| Submittal 5-18J Admix Field Testing | Lift No. 3 - Cell 10 | SL-1012 | Perm: On-going |
| Permeability | Center Haul Road | | |
| Submittal 5-18Q Cell 9: Anchor Trench | Lifts: 1-6 | AT-01 to AT-06 | Passed |

| LABORATORY TESTING | | | | |
|---|--|--|--|--|
| 5-18K Type A Drainage Gravel DG-A-17A Perm and USCS: On-going | | | | |

GENERAL ACTIVITIES

1.0 Secondary Geomembrane Repair - The soft patch on the south half of Cell 10 remains, CQA shall continue to track the soft spot in the admix near panels S-118 in Cell 10.

CONSTRUCTION ACTIVITIES

1.0 Admix Placement – CQA observed TWS using a CAT D6 GPS dozer to trim the admix to grade. The grade trimmings were loaded by a CAT 988 into a payhauler and removed from Cell 10. The trimmed admix was proof rolled with a CAT 563 smooth drum compactor and finish rolled with a small double smooth drum roller. TWS laborers removed obstructions and smoothed the admix edges to create a continuous streamlined grade across the admix surface.

The CQA surveyor was on-site to verify the admix thickness and conformance with design drawings. CQA has completed field testing and survey, of the admix, but has not completed permeability testing.

2.0 Secondary Geomembrane – TWS and ESI decided to deploy the secondary geomembrane at risk over the unapproved admix. CQA observed ESI deploying fifteen (15) panels of secondary geomembrane in Cell 10. ESI deployed panels S-119 to S-133 over admix in the location of the center haul road in Cell 10. Several partial rolls were moved into position from the east end of Cell 10. After the panels were deployed, CQA observed ESI utilizing three (3) double wedge welders to weld the panels.

CQA also observed ESI performing vacuum tests and making repairs to the secondary geomembrane in Cell 10 as required by CQA and CQC.





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-167 |
|----------------|--------------------------------------|---------------|----------------|---|
| Job Number: | S013213A00 | Staff On-site | Date: | Friday, October 1, 2010 |
| Contractor(s): | TradeWind Services | 6 | Weather: | Overcast: Hi: 85°F Lo: 58°F Wind: 13-mph |

CONSTRUCTION ACTIVITIES

- 3.0 <u>Drainage Gravel</u> TWS completed trimming the drainage gravel in Cell 9 with one (1) D6 LGP GPS dozers. CQA surveyors were on-site to verify the drainage gravel thickness in Cell 9.
- 4.0 <u>8oz. Geotextile</u> CQA witnessed ESI deploying 18 rolls of 8 oz. geotextile on the north and west sides Cells 9 and 10. ESI sewed the geotextile panels together on the floor of Cell 10.
- 5.0 Operations Soil TWS continued constructing the north operations haul road east to west, approximately 20-ft south of the Cell 10 sump. The road was placed 10-ft high and 40-ft wide to the east side of Cell 9.
 - One (1) payhauler and two (2) Komatsu payhaulers hauled soil to the north operations haul road in between hauling admix to the floor of Cell 10. The payhaulers turned around on the ramp outside of the cells, and backed slowly over the road, making no sudden movements. The soil was stockpiled at the end of the road, where a CAT D8 dozer spread the soil as a 10-ft high road across Cell 9.
- 6.0 Tank 4 CQA observed TWS utilizing a concrete pump truck to place the wet concrete into the Tank 4 ringwall forms. Inter-Mountain Testing Services (IMT) was on-site to test the placed concrete as per specification.

ENVIROTECH-CQA DATE





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-168 |
|----------------|-------------------------|--|----------------|-----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Saturday, October 2, 2010 |
| Contractor(s): | TradeWind Services | STATE OF THE STATE | Weather: | Overcast: Hi: 84°F Lo: 48°F |
| 800 | · socio | | | Wind: 11-mph |

| | Field? | NOTEBOOKS | |
|-----------------------|--------------|-----------|--|
| Tyler Williams Book 3 | Pages: 95-97 | | |

| | LABORATORY TESTING | |
|------------------------------|--------------------|-------------------------|
| 5-18K Type A Drainage Gravel | DG-A-17A | Perm and USCS: On-going |

GENERAL ACTIVITIES

1.0 Secondary Geomembrane Repair – The soft patch on the south half of Cell 10 remains, CQA shall continue to track the soft spot in the admix near panels S-118 in Cell 10.

CONSTRUCTION ACTIVITIES

- 1.0 Secondary Geomembrane CQA observed ESI performing vacuum tests and making repairs to the secondary geomembrane in Cell 10 as required by CQA and CQC. In addition, CQA observed ESI pressure testing the welds performed on Friday October 1, 2010
 - CQA also observed ESI completed vacuum testing of the secondary geomembrane on the south half of Cell 10.
- 2.0 8oz. Geotextile CQA witnessed ESI deploying fifteen (15) rolls of 8 oz. geotextile on the south half Cell 9. ESI sewed the geotextile panels together on the floor of Cell 10.
- 3.0 Operations Soil CQA observed TWS utilizing a CAT 312 excavator to remove soil from the Cell 8/9 tie-in on the north slope and place the soil over the primary geocomposite on the north berm of Cell 9.

ENVIROTECH-CQA

DATE

PAGE 1 OF 1





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-169 |
|----------------|-------------------------|---------------|----------------|-------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Monday, October 4, 2010 |
| Contractor(s): | TradeWind Services | 7 | Weather: | Pt. Cloudy: Hi: 73°F Lo: 50°F |
| | | | | Wind: 38-mph |

| FIELD NOTEBOOKS | | | | |
|---------------------|----------------|-----------------------|---------------|--|
| Joe Voss Book 2 | Pages: 115-116 | Luke Hay Book 3 | Page: 24 | |
| James Schut Book 2 | Pages: 62-64 | Tyler Williams Book 3 | Pages: 98-100 | |
| Ryan Swenson Book 1 | Pages: 52-55 | | | |

| FIELD TESTING | | | | |
|--|----------------------|--------------------|----------------|--|
| Submittal 5-18D Manhole 34 and 35 | Lifts: 6-12 | MH34-08 to MH34-14 | Passed | |
| Backfill | Lifts: 6-13 | MH35-08 to MH35-15 | Passed | |
| Submittal 5-18J Admix Field Testing | Lift No. 3 - Cell 10 | SL-1012 | Perm: On-going | |
| Permeability | Center Haul Road | : | | |
| Submittal 5-18Q Cell 9: Anchor Trench | Lifts: 1-3 and 7 | AT-07 to AT-10 | Passed | |
| Submittal 5-18Q Cell 10: Anchor Trench | Litts: 1-3 | AT-11 to AT-13 | Passed | |

| LABORATORY TESTING | | | | |
|------------------------------|----------|--|--|--|
| 5-18K Type A Drainage Gravel | DG-A-17A | Perm and USCS: On-going | | |
| 5-18M Operations Soil | OP-2 | Sample Collected: USCS on-going | | |
| 5-18M Operations Soil | OP-3 | Sample Collected: USCS on-going | | |
| 5-18M Operations Soil | OP-4 | Sample Collected: USCS on-going | | |
| 5-18M Operations Soil | OP-5 | Sample Collected: USCS and Proctor on-going | | |
| 5-18M Operations Soil | OP-6 | Sample Collected: USCS on-going | | |
| 5-18M Operations Soil | OP-7 | Sample Collected: USCS on-going | | |
| 5-18P Anchor Trench Backfill | TB-01 | Sample Collected: USCS: On-going | | |

GENERAL ACTIVITIES

1.0 Secondary Geomembrane Repair - The soft patch on the south half of Cell 10 remains, CQA shall continue to track the soft spot in the admix near panels S-118 in Cell 10.

CONSTRUCTION ACTIVITIES

1.0 <u>Secondary Geomembrane</u> – CQA observed ESI conducting extrusion repairs and performing vacuum tests to the secondary geomembrane in Cell 10 as required by CQA and CQC. In addition, the CQA surveyors were on-site to capture the secondary seam survey on the secondary geomembrane in Cell 10.





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-169 |
|----------------|--------------------------------------|---------------|----------------|-------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Monday, October 4, 2010 |
| Contractor(s): | TradeWind Services | 7 | Weather: | Pt. Cloudy: Hi: 73°F Lo: 50°F |
| Proceedings | | | | Wind: 38-mph |

CONSTRUCTION ACTIVITIES

- 3.0 100 mil Rub Sheet ESI deployed and welded the 100-mil rub sheet in the Cell 9 sump. The sheet was set over the secondary geomembrane in the Cell 9 sump and extended 5-ft onto the Cell 9 floor; however, the 100-mil rub sheet was not welded to the secondary geomembrane. The CQA surveyors were on-site to capture the extents of the 100-mil rub sheet.
- 4.0 Anchor Trench TWS placed and compacted three (3) lifts on the east side of the north anchor trench in Cell 9 and on the west side of the north anchor trench in Cell 10. In addition, TWS compacted one (1) additional lift on the west side of the north anchor trench in Cell 9. TWS utilized a Hitachi 200 excavator to place the soil and a CAT 312 excavator with an attached hoe-pack to compacted the soil. CQA tested lift 7 on the west side of the north anchor trench in Cell 9 and lifts 1-3 on the east side of the Cell 9 north anchor trench and west side of Cell 10 north anchor trench
- 5.0 Operation Soil TWS continued constructing the north operations haul road east to west, approximately 20-ft south of the Cell 9 sump. After the road was constructed to the west side of the Cell 9 sump, TWS thickened and widened the haul road to enable the trucks to turn around in the Cell. TWS then continued constructing the road to the toe of the north embankment. In addition, TWS utilized the CAT D8 dozer to push the operations soil up the Cell 9 slope west of the Cell 9 sump. A CQA spotter was present when soils were placed over primary geomembrane on the Cell 9 slope.
 - One (1) payhauler and two (2) Komatsu payhaulers hauled soil to the north operations haul road in between hauling admix to the floor of Cell 10. The payhaulers turned around on the ramp outside of the cells, and backed slowly over the road, making no sudden movements. After the turn around area was constructed in Cell 10, the payhaulers turned around in the middle of the Cell 10. The soil was stockpiled at the end of the road or at the toe of the north slope, where two (2) dozers, a CAT D8 dozer and a CAT D6 dozer, spread the soil as a 10-ft high road across Cell 10.
- 6.0 <u>Leachate Transmission</u> CQA observed TWS completing the backfill around manholes MH-34 and MH-35. TWS utilized a CAT 330 excavator to place the soil seven (7) lifts of soil around MH-34 and eight (8) lifts of soil around MH-35. TWS used a water truck to moisture condition the soil and two (2) jumping jack hand compactors to compact the soil. CQA tested and verified that lifts 6-12 of MH-34 and lifts 6-13 of MH-35 met compaction specifications.
- 7.0 Acceptance Testing BMWC and TWS performed the 2-hour pump test for the secondary pump in Cell 9 as per the construction specifications.

ENVIROTECH-CQA DA

DATE

PAGE 2 OF 2
M1 Page 294 of 376





| Project ID: | 01-0032 ERDF Cells 9-1 | 0 Construction | Report Number: | 5-16-170 |
|----------------|------------------------|----------------|----------------|-------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Tuesday, October 5, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Pt. Cloudy: Hi: 73°F Lo: 48°F |
| | n de contrar | | | Wind: 17-mph |

| FIELD NOTEBOOKS | | | | |
|---------------------|----------------|-----------------------|----------------|--|
| Joe Voss Book 2 | Pages: 117-120 | Luke Hay Book 3 | Pages: 25-26 | |
| James Schut Book 2 | Pages: 65-67 | Tyler Williams Book 3 | Pages: 101-103 | |
| Ryan Swenson Book 1 | Pages: 56-58 | | | |

| FIELD TESTING | | | | |
|--|----------------------|----------------|---|--|
| Submittal 5-18J Admix Field Testing | Lift No. 3 - Cell 10 | SL-1012 | Perm: Passed | |
| Permeability | Center Haul Road | | *************************************** | |
| Submittal 5-18Q Cell 9: Anchor Trench | Lifts: 4-5 | AT-14 to AT-15 | Passed | |
| Submittal 5-18Q Cell 10: Anchor Trench | Lifts: 4-5 | AT-16 to AT-17 | Passed | |

| CQ | A HOLD POINTS |
|---|--|
| Submittal 5-18R-100 Cell 10 Admix Surface Tuesday | October 5, 2010 Panels: S-118 to S-133 |

| LABORATORY TESTING | | | | |
|------------------------------|----------|---|--|--|
| 5-18K Type A Drainage Gravel | DG-A-17A | Perm and USCS: On-going | | |
| 5-18M Operations Soil | OP-2 | USCS on-going | | |
| 5-18M Operations Soil | OP-3 | USCS on-going | | |
| 5-18M Operations Soil | OP-4 | USCS on-going | | |
| 5-18M Operations Soil | OP-5 • | USCS and Proctor on-going | | |
| 5-18M Operations Soil | OP-6 | USCS on-going | | |
| 5-18M Operations Soil | OP-7 | USCS on-going | | |
| 5-18M Operations Soil | OP-8 | Sample Collected: USCS on-going | | |
| 5-18M Operations Soil | OP-9 | Sample Collected: USCS on-going | | |
| 5-18M Operations Soil | OP-10 | Sample Collected: | | |
| 5-18M Operations Soil | OP-11 | USCS and Proctor on-going Sample Collected: USCS on-going | | |
| 5-18M Operations Soil | OP-12 | Sample Collected: USCS on-going | | |
| 5-18P Anchor Trench Backfill | TB-01 | USCS: On-going | | |

GENERAL ACTIVITIES

- 1.0 Secondary Geomembrane Repair CQA investigated the soft patch in the admix near panels S-118 in Cell 10 and found the admix firm and stable. CQA concluded that the admix healed itself and the soft patch in the admix does not exist.
- 2.0 Weekly Progress Meeting -The construction subcontractor's weekly progress meeting on Tuesday, October 5th, 2010 at 10:00 am. in the meeting trailer.





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-170 |
|----------------|-------------------------|---------------|----------------|-------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Tuesday, October 5, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Pt. Cloudy: Hi: 73°F Lo: 48°F |
| | orana and de | | | Wind: 17-mph |

CONSTRUCTION ACTIVITIES

- 1.0 Secondary Geomembrane CQA observed ESI conducting extrusion repairs and performing vacuum tests to the secondary geomembrane in Cell 10 as required by CQA and CQC. In addition, the CQA surveyors were on-site to capture the secondary seam survey on the secondary geomembrane in Cell 10.
- 2.0 Secondary Geocomposite ESI deployed twenty (20) panels of secondary geocomposite over the south half of the Cell 10 floor. COA witnessed ESI joining the geocomposite together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together and leistering patches over the butt seams.
- 3.0 Primary Geocomposite ESI leistered patches overt the geocomposite butt seams of the Cell 9 north slope.
- 4.0 Cell 9 Sump ESI deployed one (1) roll of 16 oz. primary geotextile in the Cell 9 sump. The primary geotextile was sewn to the surrounding primary geotextile. In the location of the flat stock in the Cell 9 sump. ESI deployed a second layer of geotextile to create a cushion two panels thick as per design drawings.
- 5.0 Anchor Trench TWS placed and compacted two (2) lifts on the east side of the north anchor trench in Cell 9 and on the west side of the north anchor trench in Cell 10. TWS utilized a Hitachi 200 excavator to place the soil and a CAT 312 excavator with an attached hoe-pack to compacted the soil. CQA tested lifts 1-3 on the east side of the Cell 9 north anchor trench and west side of Cell 10 north anchor trench
- 6.0 Operation Soil TWS continued placing operations on the north embankment. Soil was hauled to the toe of slope with payhauler and pushed up the slope with a CAT D8 dozer. Later in the day, the CAT 330 spread the operations soil up the Cell 9 north slope to ensure no underlying liner was folded over. A CQA spotter was present when soils were placed over primary geomembrane on the Cell 9 slope. In addition, TWS turned the north haul road south in Cell 9, and began pushing operations soil north to south down the center of Cell 9.
 - One (1) payhauler and two (2) Komatsu payhaulers hauled soil to the north operations haul road in between hauling admix to the floor of Cell 10. The payhauters turned around in the middle of the Cell 10 over a 10-ft high shelf of operations soil on the floor. The soil was stockpiled at the end of the road or at the toe of the north slope. Two (2) dozers, a CAT D8 dozer and a CAT D6 dozer spread the operations soil. The soil was spread south, across Cell 9 or up the Cell 9 north slope.
- 7.0 Leachate Transmission CQA observed TWS completing the backfill around manholes MH-34 and MH-35. TWS utilized a CAT 330 excavator to place seven (7) lifts of soil around MH-34 and eight (8) lifts of soil around MH-35. TWS used a water truck to moisture condition the soil and two (2) jumping jack hand compactors to compact the soil. CQA tested and verified that lifts 6-12 of MH-34 and lifts 6-13 of MH-35 met compaction specifications.

In addition, BMWC began assembling the leachate piping in the Cell 9 crest pad building.

8.0 Acceptance Testing - BMWC and TWS performed the 2-hour pump test for the Cell 10 crest pad building as per the construction specifications.

TROTECH-CQA DATE

PAGE 2 OF 2

M1 Page 296 of 376





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-171 |
|----------------|-------------------------|---------------|---|----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Wednesday, October 6, 2010 |
| Contractor(s): | TradeWind Services | 6 | Weather: | Cloudy: Hi: 75°F Lo: 48°F |
| | | | 2 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 | Wind: 16-mph |

| FIELD NOTEBOOKS | | | | | |
|--------------------|----------------|-----------------------|----------------|--|--|
| Joe Voss Book 2 | Pages: 121-122 | Luke Hay Book 3 | Pages: 27-31 | | |
| James Schut Book 2 | Pages: 68-69 | Tyler Williams Book 3 | Pages: 104-105 | | |

| LABORATORY TESTING | | | | |
|------------------------------|----------|---|--|--|
| 5-18K Type A Drainage Gravel | DG-A-17A | Perm and USCS: On-going | | |
| 5-18M Operations Soil | OP-2 | USCS on-going | | |
| 5-18M Operations Soil | OP-3 | USCS on-going | | |
| 5-18M Operations Soil | OP-4 | USCS on-going | | |
| 5-18M Operations Soil | OP-5 | USCS and Proctor on-going | | |
| 5-18M Operations Soil | OP-6 | USCS on-going | | |
| 5-18M Operations Soil | OP-7 | USCS on-going | | |
| 5-18M Operations Soil | OP-8 | USCS on-going | | |
| 5-18M Operations Soil | OP-9 | USCS on-going | | |
| 5-18M Operations Soil | OP-10 | USCS and Proctor on-going | | |
| 5-18M Operations Soil | OP-11 | USCS on-going | | |
| 5-18M Operations Soil | OP-12 | USCS on-going | | |
| 5-18M Operations Soil | OP-13 | Sample Collected: USCS on-going | | |
| 5-18M Operations Soil | OP-14 | Sample Collected: USCS on-going | | |
| 5-18M Operations Soil | OP-15 | Sample Collected: USCS and Proctor on-going • | | |
| 5-18P Anchor Trench Backfill | TB-01 | USCS: On-going | | |

CONSTRUCTION ACTIVITIES

- 1.0 Secondary Geocomposite ESI deployed thirty-three (33) panels of secondary geocomposite over the south half of the Cell 10 floor. CQA witnessed ESI joining the geocomposite together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together and leistering patches over the butt seams.
- 2.0 Cell 9 Sump CQA observed TWS placing Type B drainage gravel in the Cell 9 sump over the 16 oz. primary geotextile with a CAT 312 excavator. After the drainage gravel was placed, the CQA surveyors verified the gravel thickness. ESI then deployed one (1) roll of 8 oz. primary geotextile over the Type B drainage gravel. CQA then witnessed TWS placing 5-ft of operations material over the 8 oz. geotextile.

The CQA surveyors were on-site to verify the thickness of the drainage gravel.

3.0 Primary Geocomposite – CQA observed ESI adding zip ties to the primary geocomposite butt seams on the north slope of Cell 9 as required by CQA to meet the construction specifications. ESI then leistered patches over the geocomposite butt seams of the Cell 9 north slope.





| Project ID: | 01-0032 ERDF Cells 9-10 |) Construction | Report Number: | 5-16-171 |
|----------------|-------------------------|----------------|----------------|----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Wednesday, October 6, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Cloudy: Hi: 75°F Lo: 48°F |
| | | | | Wind: 16-mph |

CONSTRUCTION ACTIVITIES

- 4.0 Operation Soil TWS continued placing operations on the north embankment of Cell 9. Soil was hauled to the toe of slope in one (1) International payhauler and two (2) Komatsu payhaules, and spread up the north slope of Cell 9 slope with the CAT 330 excavator, a CAT D6 LGP dozer, and a CAT D8 dozer. A CQA spotter was present when soils were placed over primary geomembrane on the Cell 9 slope. In addition, TWS continued placing the west haul road in Cell 9, from the center of Cell 9 south to the Cell 9 south embankment toe of slope.
- 5.0 Leachate Transmission CQA observed BMWC assembling the leachate piping in the Cell 9 crest pad building.
- 6.0 Tank 4 CQA observed TWS stripping the concrete forms from the Tank 4 ring wall.

PAGE 2 OF 2 M1 Page 298 of 376





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-172 |
|----------------|-------------------------|---------------|----------------|-------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Thursday, October 7, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Overcast: Hi: 67°F Lo: 49°F |
| | | | | Wind: 19-mph Showers: 0.01-in |

| FIELD NOTEBOOKS | | | | | |
|--------------------|----------------|-----------------------|----------------|--|--|
| Joe Voss Book 2 | Pages: 123-125 | Luke Hay Book 3 | Page: 32 | | |
| James Schut Book 2 | Pages: 70-71 | Tyler Williams Book 3 | Pages: 106-109 | | |
| Ryan Swenson Book | Pages: 59-62 | | | | |

| LABORATORY TESTING | | | | |
|------------------------------|----------|---------------------------------|--|--|
| 5-18K Type A Drainage Gravel | DG-A-17A | Perm and USCS: Passed | | |
| 5-18M Operations Soil | OP-2 | USCS: Passed | | |
| 5-18M Operations Soil | OP-3 | USCS: Passed | | |
| 5-18M Operations Soil | OP-4 | USCS: Passed | | |
| 5-18M Operations Soil | OP-5 | USCS and Proctor on-going | | |
| 5-18M Operations Soil | OP-6 | USCS on-going | | |
| 5-18M Operations Soil | OP-7 | USCS on-going | | |
| 5-18M Operations Soil | OP-8 | USCS on-going | | |
| 5-18M Operations Soil | OP-9 | USCS on-going | | |
| 5-18M Operations Soil | OP-10 | USCS and Proctor on-going | | |
| 5-18M Operations Soil | OP-11 | USCS on-going | | |
| 5-18M Operations Soil | OP-12 | USCS on-going | | |
| 5-18M Operations Soil | OP-13 | USCS on-going | | |
| 5-18M Operations Soil | OP-14 | USCS on-going | | |
| 5-18M Operations Soil | • OP-15 | USCS and Proctor on-going | | |
| 5-18M Operations Soil | OP-16 | Sample Collected: USCS on-going | | |
| 5-18M Operations Soil | OP-17 | Sample Collected: USCS on-going | | |
| 5-18M Operations Soil | OP-18 | Sample Collected: USCS on-going | | |
| 5-18M Operations Soil | OP-19 | Sample Collected: USCS on-going | | |
| 5-18P Anchor Trench Backfill | TB-01 | USCS: Passed | | |

GENERAL ACTIVITIES

1.0 Operations Placement – TWS began hauling operations material to the top of the north embankment. The soil was stockpiled in the Cell 9 north anchor trench and pushed down the slope over 2-3 feet of operations material with a CAT D6 dozer. CQA notified WCH, who met to decide if the placement met the intent of the contract specifications. WCH staff concluded that the placement of the operations material did not meet the intent of section 3.4.e of the contract specifications 0600X-SP-C0078 Rev 1, which states." Operations layer material placed on the side slopes shall be pushed up from the bottom of slope."

WCH staff halted operations placement on the side slope and informed TWS to place operations material in a manner consistent with the contract specifications. TWS resumed placing operations material on the side slopes by pushing material up from the bottom of the slope consistent with section 3.4.e of 0600X-SP-C0078 Rev. 1.





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-172 |
|----------------|--|---------------|----------------|-------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Thursday, October 7, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Overcast: Hi: 67°F Lo: 49°F |
| | A CONTRACTOR CONTRACTO | | | Wind: 19-mph Showers: 0.01-in |

GENERAL ACTIVITIES

- 2.0 Operations Placement (Continued) CQA held a meeting the CQA trailer with all CQA staff on-site readdressing the technicians roles, duties, and actions. In addition, the CQA engineer reviewed the approved methods of operation soil placement with the CQA staff.
- 3.0 Destructive Sampling Cell 10 primary liner sample DP-74 was accidently thrown away by the ESI operator. ESI cut a new destructive sample DP-74A from the original weld. CQA tested and verified that the destruct met construction specifications.

CONSTRUCTION ACTIVITIES

- 1.0 Secondary Geocomposite ESI deployed twenty-five (25) panels of secondary geocomposite over the south half of the Cell 10 floor. CQA witnessed ESI joining the geocomposite together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together and leistering patches over the butt seams.
- 2.0 Cell 9 Sump CQA observed TWS installing the primary riser pipes in Cell 9. TWS utilized the CAT 330 to elevate the pipes while placing them through the Crest Pad 9 stem wall. TWS placed the CAT 330 excavator on the operations soil next to the riser trench. One pipe at a time, the pipes were suspended from the CAT 330 excavator and walked down the slope to the Cell 9 sump. The 18-in primary riser pipe and the 12-in riser pipe were placed on the flat stock in the Cell 9 sump. The transducer pipe was placed next to the flat stock as per the design drawings. TWS spotters were present at all times to ensure no damage to the liner system. CQA inspected the liner following installation and found no damage to the geosynthetics.
- 3.0 <u>Primary Geocomposite</u> CQA observed ESI adding zip ties to the primary geocomposite butt seams on the north slope of Cell 9 as required by CQA to meet the construction specifications. ESI then leistered patches over the geocomposite butt seams of the Cell 9 north slope.
- 4.0 Operation Soil TWS continued placing operations on the north embankment of Cell 9. Soil was hauled to the toe of slope in one (1) International payhauler and two (2) Komatsu payhaules, and spread up the north slope of Cell 9 slope with the CAT 330 excavator, a CAT D6 LGP dozer, and a CAT D8 dozer. A CQA spotter was present when soils were placed over primary geomembrane on the Cell 9 slope. In addition, TWS continued placing the west haul road in Cell 9, from the center of Cell 9 south to the Cell 9 south embankment toe of slope.
 - In addition, TWS began pushing operations soil down the Cell 9 north slope over in-place operations soil. The soil was then spread laterally across the slope, soil cover was maintained down slope of the horizontally placed soil. The operation was stopped in the morning hours by WCH, see general activities for more information.
- 5.0 Leachate Transmission CQA observed BMWC assembling the leachate piping in Cell 9 and 10 crest pad buildings.
- 6.0 Tank 4 CQA observed TWS stripping the concrete forms from the Tank 4 ring wall.

ENVIROTECH-CQA DAT

DATE





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-173 |
|----------------|-------------------------|---------------|----------------|-----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Friday, October 8, 2010 |
| Contractor(s): | TradeWind Services | 7 | Weather: | Overcast: Hi: 70°F Lo: 51°F |
| | | | | Wind: 13-niph |

| FIELD NOTEBOOKS | | | | | |
|---|--------------|-----------------------|----------------|--|--|
| Joe Voss Book 2 Pages: 126-127 Luke Hay Book 3 Pages: 33-34 | | | | | |
| James Schut Book 2 | Pages: 72-74 | Tyler Williams Book 3 | Pages: 110-112 | | |
| Ryan Swenson Book I | Pages: 63-65 | | | | |

| LABORATORY TESTING | | | | |
|-----------------------|-------|---------------------------------|--|--|
| 5-18M Operations Soil | OP-5 | USCS and Proctor on-going | | |
| 5-18M Operations Soil | OP-6 | USCS: Passed | | |
| 5-18M Operations Soil | OP-7 | USCS: Passed | | |
| 5-18M Operations Soil | OP-8 | USCS: Passed | | |
| 5-18M Operations Soil | OP-9 | USCS: Passed | | |
| 5-18M Operations Soil | OP-10 | USCS and Proctor on-going | | |
| 5-18M Operations Soil | OP-11 | USCS: Passed | | |
| 5-18M Operations Soil | OP-12 | USCS on-going | | |
| 5-18M Operations Soil | OP-13 | USCS on-going | | |
| 5-18M Operations Soil | OP-14 | USCS on-going | | |
| 5-18M Operations Soil | OP-15 | USCS and Proctor on-going | | |
| 5-18M Operations Soil | OP-16 | USCS on-going | | |
| 5-18M Operations Soil | OP-17 | USCS on-going | | |
| 5-18M Operations Soil | OP-18 | USCS on-going | | |
| 5-18M Operations Soil | OP-19 | USCS on-going • | | |
| 5-18M Operations Soil | OP-20 | Sample Collected: USCS on-going | | |
| 5-18M Operations Soil | OP-21 | Sample Collected: USCS on-going | | |
| 5-18M Operations Soil | OP-22 | Sample Collected: USCS on-going | | |
| 5-18M Operations Soil | OP-23 | Sample Collected: USCS on-going | | |
| 5-18M Operations Soil | OP-24 | Sample Collected: USCS on-going | | |

CONSTRUCTION ACTIVITIES

- 1.0 Secondary Geocomposite ESI deployed nineteen (19) panels of secondary geocomposite over the south half of the Cell 10 floor and south slope. CQA witnessed ESI joining the geocomposite together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together and leistering patches over the butt seams.
- 2.0 <u>Drainage Gravel</u> CQA observed TWS placing Type A drainage gravel directly south of the Cell 9 sump over the 12-in leachate collection pipe in Cell 9. CQA observed TWS utilizing a CAT 312 excavator to place and grade the 1-ft drainage gravel berm over the leachate collection pipe with the aid of the TWS surveyor. After the drainage gravel was placed, the CQA surveyor verified the gravel thickness.





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-173 |
|----------------|-------------------------|---------------|----------------|-----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Friday, October 8, 2010 |
| Contractor(s): | TradeWind Services | 7 | Weather: | Overcast: Hi: 70°F Lo: 51°F |
| | | | | Wind: 13-mph |

CONSTRUCTION ACTIVITIES

- 3.0 Operation Soil TWS hauled no operations soil into the construction area. CQA observed TWS spreading the operations soil from the Cell 9 center haul road and the Cell 9 north haul road across Cell 9. TWS utilized two (2) CAT D6 LGP GPS dozers and one (1) CAT D8 dozer to spread, grade, and compact the operations soil to a thickness of 3-ft. TWS has completed spreading operations soil on approximately 60% of the Cell 9 floor.
- 4.0 Tank 4 CQA observed TWS stripping the last of the concrete forms from around Tank #4 ring wall in preparation for backfill.

ENVIROTECH - CQA DATE

M1 Page 302 of 376





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-174 |
|--|--------------------------------------|---------------|----------------|--------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Saturday, October 9, 2010 |
| Contractor(s): | TradeWind Services | 1 | Weather: | Overcast: Hi: 64°F Lo: 51°F |
| RECORDED TO THE PROPERTY OF TH | u variance e | | | Wind: 18-mph Lt. Rain: 0.09-in |

| | FIELD NOTEBOOKS | | | | |
|-----------------------|-----------------|--|--|--|--|
| Tyler Williams Book 3 | Pages: 113-114 | | | | |

| LABORATORY TESTING | | | |
|-----------------------|-------|---------------------------|--|
| 5-18M Operations Soil | OP-5 | USCS and Proctor on-going | |
| 5-18M Operations Soil | OP-10 | USCS and Proctor on-going | |
| 5-18M Operations Soil | OP-12 | USCS on-going | |
| 5-18M Operations Soil | OP-13 | USCS on-going | |
| 5-18M Operations Soil | OP-14 | USCS on-going | |
| 5-18M Operations Soil | OP-15 | USCS and Proctor on-going | |
| 5-18M Operations Soil | OP-16 | USCS on-going | |
| 5-18M Operations Soil | OP-17 | USCS on-going | |
| 5-18M Operations Soil | OP-18 | USCS on-going | |
| 5-18M Operations Soil | OP-19 | USCS on-going | |
| 5-18M Operations Soil | OP-20 | USCS on-going | |
| 5-18M Operations Soil | OP-21 | USCS on-going | |
| 5-18M Operations Soil | OP-22 | USCS on-going | |
| 5-18M Operations Soil | OP-23 | USCS on-going | |
| 5-18M Operations Soil | OP-24 | USCS on-going | |

CONSTRUCTION ACTIVITIES

- 1.0 <u>Secondary Geocomposite</u> –CQA witnessed ESI joining the geocomposite on the Cell 10 floor together with plastic zip ties as per construction specifications.
- 2.0 Cell 10 Sump CQA witnessed ESI deployed one (1) roll of 100-mil geomembrane in the Cell 10 sump. The geomembrane was placed and then double wedge fusion welded together. The 100-mil geomembrane was not attached or welded to the underlying 60-mil geomembrane. After the 100-mil geomembrane deployment was completed, ESI deployed 16 oz. geotextile in the Cell 10 sump. The geotextile was deployed from partially deployed rolls left rolled up next to the Cell 10 sump. After the geotextile was deployed in the Cell 10 sump, ESI used excess 16 oz. geotextile to deploy the double layer of 16 oz. fabric in the center of the Cell 10 sump floor as per design drawings.
- 3.0 8 oz. Geotextile CQA observed ESI placing partial rolls of 8oz. geotextile over the leachate collection pipe berm and primary drainage gravel directly south of the Cell 9 sump.
- 4.0 Operations Soil CQA observed TWS utilizing a CAT D6 LGP dozer to construction an access road of operations soil from the Cell 10 north operations road to the Cell 10 sump.

ENV/ROTECH-CQA

10/14/1

A I E M1 Page 303 of 376 PAGE 1 OF 1





| Project ID: | 01-0032 ERDF Cells 9-10 (| Construction | Report Number: | 5-16-175 |
|----------------|---------------------------|---------------|----------------|-------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Monday, October 11, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Pt. Cloudy: Hi:66 °F Lo: 41°F |
| | | | | Wind: 26-mph |

| FIELD NOTEBOOKS | | | | | |
|--------------------|----------------|-----------------------|----------------|--|--|
| Joe Voss Book 2 | Pages: 128-129 | Tyler Williams Book 3 | Pages: 115-117 | | |
| James Schut Book 2 | Pages: 75-77 | Ryan Swenson Book 1 | Page: 66 | | |

| | FIELD TESTING | | |
|------------------------------------|---------------|----------------|--------|
| Submittal 5-18B: Tank #4 Ring wall | Lifts: 1-5 | T4-24 to T4-33 | Passed |

| CQA HOLD POINTS | | | | | |
|-------------------------------------|------------------|--|--|--|--|
| Submittal 5-18R-101 Cell 10 Primary | October 11, 2010 | Panels: P-54 to P-62 | | | |
| Subgrade | | obiological control of the control o | | | |

| | LABORATORY TE | STING |
|-----------------------|---------------|---------------------------------|
| 5-18M Operations Soil | OP-5 | USCS and Proctor on-going |
| 5-18M Operations Soil | OP-10 | USCS and Proctor on-going |
| 5-18M Operations Soil | OP-12 | USCS: Passed |
| 5-18M Operations Soil | OP-13 | USCS: Passed |
| 5-18M Operations Soil | OP-14 | USCS: Passed |
| 5-18M Operations Soil | OP-15 | USCS and Proctor on-going |
| 5-18M Operations Soil | OP-16 | USCS: Passed |
| 5-18M Operations Soil | OP-17 | USCS: Passed |
| 5-18M Operations Soil | OP-18 | USCS: Passed |
| 5-18M Operations Soil | OP-19 | USCS: Passed |
| 5-18M Operations Soil | OP-20 | USCS and Proctor on-going |
| 5-18M Operations Soil | OP-21 | USCS on-going |
| 5-18M Operations Soil | OP-22 | USCS on-going |
| 5-18M Operations Soil | OP-23 | USCS on-going |
| 5-18M Operations Soil | OP-24 | USCS on-going |
| 5-18M Operations Soil | OP-25 | Sample Collected: |
| | | USCS and Proctor on-going |
| 5-18M Operations Soil | OP-26 | Sample Collected: USCS on-going |
| 5-18M Operations Soil | OP-27 | Sample Collected: USCS on-going |
| 5-18M Operations Soil | OP-28 | Sample Collected: USCS on-going |
| 5-18M Operations Soil | OP-29 | Sample Collected: USCS on-going |
| 5-18M Operations Soil | OP-30 | Sample Collected: |
| | | USCS and Proctor on-going |





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-175 |
|----------------|-------------------------|---------------|----------------|-------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Monday, October 11, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Pt. Cloudy: Hi:66 °F Lo: 41°F |
| | | | | Wind: 26-mph |

GENERAL ACTIVITIES

- 1.0 <u>Primary Geomembrane</u> CQA notified WCH that ESI was continuing to deploy primary geomembrane in a check board pattern across the Cell 10 floor. WCH responded that the deployment pattern was acceptable.
- 2.0 <u>Cell 9 Sump</u> CQA informed the WCH engineer. Tim Wintel, that TWS could not secure the riser pipes to the flat stock in the Cell 9 sump as per specifications due to the deflection in the Cell 9 riser pipes. The WCH engineer indicated that he was aware of the situation and would only require TWS to secure the pipe to the best of their ability.

CONSTRUCTION ACTIVITIES

- 1.0 Secondary Geocomposite CQA witnessed ESI completing the joining the geocomposite on the Cell 10 floor and side slopes. The geocomposite was joined together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together and leistering patches over the butt seams.
- 2.0 Primary Geocomposite -CQA observed ESI completing the joining of the primary geocomposite on the north slope by the rain flap. ESI joined the geocomposite together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together and leistering patches over the butt seams.
- 3.0 Primary Geomembrane CQA observed ESI deploying eight (8) panels of primary geomembrane on the south floor of Cell 10. Panels P-54 to P-62 were deployed from the east termination and pulled across Cell 10 with a track bobcat, ESI continued deploying panels in a checkerboard fashion across Cell 10. After the panels were deployed, ESI utilized two (2) double wedge fusion welders to weld the panels together.
- 4.0 Cell 9 Sump CQA observed TWS strapping the riser pipes to the flat stock in the Cell 9 sump. Due to the deflection in the riser pipe, TWS was only able to place two (2) clamps on the 18-in riser pipe; however, TWS was able to place all four (4) clamps on the 12-in riser pipe. CQA observed TWS placing Type B drainage gravel into the east half of the Cell 9 sump over the Cell 9 primary riser pipes. CQA observed TWS utilizing a CAT 312 excavator to place and grade Type B drainage gravel with the aid of the TWS surveyor. CQA observed two (2) laborers haunching the drainage gravel under the Cell 9 primary riser pipes.
- 5.0 Operation Soil TWS built a ramp from the north haul road to the Cell 9 sump. Soil was hauled into Cell 9 by one (1) Komatsu payhauler and placed to the edge of the Cell 9 sump with a CAT D8 dozer.
 - TWS continued spreading operations on the Cell 9 floor. The soil was spread across the floor of Cell 9 in a 3-ft high lift with the two (2) CAT D6 dozers and the CAT D8 dozer. By the end of the day, approximately 70% of the cell floor was covered with operations material.
- 6.0 <u>Tank 4</u> CQA observed TWS placing five (5) lifts of backfill around the Tank 4 ring wall with a CAT 325 excavator. The fill was moisture conditioned and compacted with two (2) jumping jack hand compactors. CQA tested and verified that lifts 1-5 met compaction specifications.
- 7.0 Cell 10 Crest Pad CQA observed BMWC installing the Cell 10 secondary leachate collection pumps and discharge piping in the Cell 10 Crest Pad building.

ENVIROTECH - CQA

10/19/ce

M1 Page 305 of 376





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-176 |
|----------------|-------------------------|---------------|--|-------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Tuesday, October 12, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Pt. Cloudy: Hi: 65°F Lo: 33°F |
| | | | The state of the s | Wind: 8-mph |

| FIELD NOTEBOOKS | | | |
|--------------------|----------------|-----------------------|----------------|
| Joe Voss Book 2 | Pages: 130-132 | Tyler Williams Book 3 | Pages: 118-120 |
| James Schut Book 2 | Pages: 78-79 | Ryan Swenson Book 1 | Pages: 67-70 |

| FIELD TESTING | | | |
|------------------------------------|----------|----------------|--------|
| Submittal 5-18B: Tank #4 Ring wall | Lift: 6. | T4-34 to T4-35 | Passed |

| CQA HOLD POINTS | | |
|-------------------------------------|------------------|----------------------|
| Submittal 5-18R-102 Cell 10 Primary | October 12, 2010 | Panels: P-63 to P-77 |
| Subgrade | | |

| | LABORATORY TE | STING |
|-----------------------|---------------|---------------------------------|
| 5-18M Operations Soil | OP-5 | USCS and Proctor: Passed |
| 5-18M Operations Soil | OP-10 | USCS and Proctor: Passed |
| 5-18M Operations Soil | OP-15 | USCS and Proctor: Passed |
| 5-18M Operations Soil | OP-20 | USCS and Proctor on-going |
| 5-18M Operations Soil | OP-21 | USCS on-going |
| 5-18M Operations Soil | OP-22 | USCS on-going |
| 5-18M Operations Soil | OP-23 | USCS on-going |
| 5-18M Operations Soil | OP-24 | USCS on-going |
| 5-18M Operations Soil | OP-25 | USCS and Proctor on-going |
| 5-18M Operations Soil | OP-26 | USCS on-going |
| 5-18M Operations Soil | OP-27 | USCS on-going |
| 5-18M Operations Soil | OP-28 | USCS on-going |
| 5-18M Operations Soil | OP-29 | USCS on-going |
| 5-18M Operations Soil | OP-30 | USCS and Proctor on-going |
| 5-18M Operations Soil | OP-31 | Sample Collected: USCS on-going |
| 5-18M Operations Soil | OP-32 | Sample Collected: USCS on-going |
| 5-18M Operations Soil | OP-33 | Sample Collected: USCS on-going |
| 5-18M Operations Soil | OP-34 | Sample Collected: USCS on-going |
| 5-18M Operations Soil | OP-35 | Sample Collected: |
| • | | USCS and Proctor on-going |
| 5-18M Operations Soil | OP-36 | Sample Collected: USCS on-going |
| 5-18M Operations Soil | OP-37 | Sample Collected: USCS on-going |
| 5-18M Operations Soil | OP-38 | Sample Collected: USCS on-going |
| 5-18M Operations Soil | OP-39 | Sample Collected: USCS on-going |





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-176 |
|----------------|-------------------------|---------------|----------------|-------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Tuesday, October 12, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Pt. Cloudy: Hi: 65°F Lo: 33°F |
| | | | | Wind: 8-mph |

GENERAL ACTIVITIES

- 1.0 Primary Geomembrane CQA notified WCH that ESI was continuing to deploy primary geomembrane in a check board pattern across the Cell 10 floor. WCH responded that the deployment pattern was acceptable.
- 2.0 Weekly Progress Meeting The construction subcontractor's weekly progress meeting on Tuesday, October 5th, 2010 at 10:00 am. in the meeting trailer.
- 3.0 CQA Weekly Progress Meeting CQA attended the CQA subcontractor's weekly progress meeting on Tuesday, October 21st, 2010 at 10:15 am in the meeting trailer.
- 4.0 Cell 9 Primary Riser Pipe Trench WCH called a stop work on the Cell 9 riser trench backfill. A disagreement on the compaction of the Cell 9 riser trench occurred between CQA, TWS and WCH. The specification on the riser backfill is unclear, requiring 8-in lifts; however, the primary riser pipe is 18-in in height and it is difficult to impossible to compact in the confined space on a 3:1 slope. In addition, the pipe should be protected as in the utility trench specification, or no compaction within 1-ft over the riser pipe. The pipe trench is 2.5-ft deep and the pipe is 18-in. As such, CQA discussion with WCH and TWS has indicated that only 1 lift is required. CQA checked with Cells 7&8 construction, and discovered this was the method employed on the previous Cells as well.
- 5.0 CQA SDDR-06 CQA was given verbal confirmation that CQA SDDR-06 was approved. The SDDR requested a lifting of the compaction testing on the anchor trenches, as the placement is a method specification, not an end compaction specification.

CONSTRUCTION ACTIVITIES

- 1.0 Secondary Geocomposite -CQA observed ESI peeling back the primary geomembrane on the Cell 10 floor in order to walk out a wrinkle in the secondary geocomposite. After the wrinkle was walked to the edge, the primary geomembrane was replaced.
- 2.0 Primary Geomembrane CQA observed ESI deploying fifteen (15) panels of primary geomembrane on the south floor of Cell 10. Panels P-63 to P-77 were deployed from the east termination and pulled across Cell 10 with a track bobcat. ESI continued deploying panels in a checkerboard fashion across Cell 10. After the panels were deployed, ESI utilized three (3) double wedge fusion welders to weld the panels together.

The CQA surveyor was on-site to capture the primary liner as-built.

3.0 Cell 9 Sump – CQA observed TWS fine grading the Type B drainage gravel in the Cell 9 sump with the CAT 312 excavator aided by the TWS surveyor. After the gravel was graded, the CQA surveyor, Stratton Survey, verified that the gravel met the design drawings.

After CQA approved the gravel placement, ESI deployed one (1) roll of 8 oz. geotextile over the Type B drainage gravel in the Cell 9 sump. The geotextile was sewn together and leistered to the primary geocomposite on the Cell 9 slope.





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-176 |
|----------------|-------------------------|---------------|----------------|--|
| Job Number: | S013213A00 | Staff On-site | Date: | Tuesday, October 12, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Pt. Cloudy: Hi: 65°F Lo: 33°F Wind: 8-mph |

CONSTRUCTION ACTIVITIES

- 4.0 Cell 10 Sump CQA observed TWS utilizing the CAT 312 excavator to place and spread the Type B drainage gravel into the Cell 9 sump aided by the TWS surveyor. The gravel was placed on the west side of the sump, to allow TWS access to the riser pipes for installation. The CQA surveyor was on-site to verify that the gravel met the design drawings.
- 5.0 Operation Soil TWS continued spreading operations on the Cell 10 floor. The soil was spread across the floor of Cell 9 in a 3-ft high lift with the two (2) CAT D6 dozers and the CAT D8 dozer. By the end of the day, approximately 80% of the cell floor was covered with operations material.

CQA also observed TWS placing operations soil up the Cell 9 slope. TWS placed operations soil with the two (2) CAT D6 dozers and the CAT D8 dozer from the floor of Cell 9 up the slope in a 3-ft high minimum lift. At the end of the day, approximately 60% of the north slope was covered with operations material.

In addition, TWS placed riser pipe backfill up the riser trench in Cell 9 with a CAT D8 dozer. The soil was placed in one (1) lift 1-ft above the primary 18-in riser pipe. The backfill was halted half-way up the slope due to a stop work called by WCH. See General Activities for more information.

- 6.0 Tank 4 CQA observed TWS placing one (1) lift of backfill around the Tank 4 ring wall with a CAT 330 excavator. The fill was moisture conditioned and compacted with two (2) jumping jack hand compactors. CQA tested and verified that lift 6 (6) met compaction specifications. The backfill around the ring wall was completed.
- 7.0 Cell 10 Crest Pad CQA observed BMWC connecting the Cell 10 head works piping in the Cell 10 Crest Pad building.
- 8.0 Anchor Trench CQA observed ESI backfilling the Cell 9 anchor trench west of the crest pad building. TWS used the Hitachi 200 to place 6 lifts of backfill into the anchor trench. Each lift was moisture conditioned and compacted with the CAT 312 excavator with attached hoe-pack.

ENVIROTECH-CQA

/5/18/10 DATE

PAGE 3 OF 3





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-177 |
|----------------|-------------------------|---------------|----------------|-----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Wednesday, October 13, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Clear: Hi: 67°F Lo: 37°F |
| | | | | Wind: 12-mph |

| | FIELD NOTEBOOKS | | | | |
|--------------------|-----------------|-----------------------|----------------|--|--|
| Joe Voss Book 2 | Pages: 133-134 | Tyler Williams Book 3 | Pages: 121-123 | | |
| James Schut Book 2 | Pages: 80-83 | Ryan Swenson Book I | Pages: 71-73 | | |

| and party | | | | |
|---|--|--|--|--|
| FIELD TESTING | | | | |
| FIELD LESTING | | | | |
| Submittal 5-18O: Cell 9 Primary Riser Lift: 1 RT9-04 Passed | | | | |

| CQA HOLD POINTS | | | |
|-------------------------------------|------------------|----------------------|--|
| Submittal 5-18R-103 Cell 10 Primary | October 13, 2010 | Panels: P-78 to P-83 | |
| Subgrade | | | |

| | LABORATORY TE | STING " |
|-----------------------|---------------|---------------------------|
| 5-18M Operations Soil | OP-20 · | USCS and Proctor on-going |
| 5-18M Operations Soil | OP-21 | USCS on-going |
| 5-18M Operations Soil | OP-22 | USCS on-going |
| 5-18M Operations Soil | OP-23 | USCS on-going |
| 5-18M Operations Soil | OP-24 | USCS on-going |
| 5-18M Operations Soil | OP-25 | USCS and Proctor on-going |
| 5-18M Operations Soil | OP-26 | USCS on-going |
| 5-18M Operations Soil | OP-27 | USCS on-going |
| 5-18M Operations Soil | OP-28 | USCS on-going |
| 5-18M Operations Soil | OP-29 | USCS on-going |
| 5-18M Operations Soil | OP-30 | USCS and Proctor on-going |
| 5-18M Operations Soil | OP-31 | USCS on-going |
| 5-18M Operations Soil | OP-32 | USCS on-going |
| 5-18M Operations Soil | OP-33 | USCS on-going |
| 5-18M Operations Soil | OP-34 | USCS on-going |
| 5-18M Operations Soil | OP-35 | USCS and Proctor on-going |
| 5-18M Operations Soil | OP-36 | USCS on-going |
| 5-18M Operations Soil | OP-37 | USCS on-going |
| 5-18M Operations Soil | OP-38 | USCS on-going |
| 5-18M Operations Soil | OP-39 | USCS on-going |





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-177 |
|----------------|--|---------------|----------------|-----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Wednesday, October 13, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Clear: Hi: 67°F Lo: 37°F |
| | equations of the second | | | Wind: 12-mph |

CONSTRUCTION ACTIVITIES

- 1.0 Primary Geomembrane CQA observed ESI deploying six (6) panels of primary geomembrane on the south slope and floor of Cell 10. Panels P-78 to P-83 were deployed from the top of the south slope over a rub sheet. The panels were walked to the toe and pulled out over the floor with a track bobcat. After the panels were deployed, ESI utilized three (3) double wedge fusion welders to weld the panels together.
 - ESI performed repairs and conducted non-destructive testing on deployed primary geomembrane panels P-78 to P-83 on the floor of Cell 10. In addition, ESI extrusion welded the primary to primary tie-in located on the crest between Cells 10 and 11 in the location of the north haul road.
- 2.0 Cell 9 Sump CQA observed TWS fine grading the Type B drainage gravel in the Cell 9 sump with the CAT 312 excavator aided by the TWS surveyor. After the gravel was graded, the CQA surveyor, Stratton Survey, verified that the gravel met the design drawings.
 - After CQA approved the gravel placement, ESI deployed one (1) roll of 8 oz. geotextile over the Type B drainage gravel in the Cell 9 sump. The geotextile was sewn together and leistered to the primary geocomposite on the Cell 9 slope.
- 3.0 Cell 10 Sump CQA observed ESI placing the flat stock into the Cell 10 sump. CQA also observed ESI deploying a partial roll of geotextile over the Type B drainage gravel on the west side of the Cell 10 sump.
- 4.0 Operation Soil TWS hauled and spread operations soil in Cells 9 and 10. TWS hauled soil to the north toe of slope in Cell 9 and 10. TWS utilized the CAT D8 dozer and two (2) CAT D6 dozers to spread the operations soil up the Cell 9 slope in a continuous 3-ft high lift. By the end of the day, approximately 90% of the north slope of Cell 9 was covered with operations material. TWS also used the CAT D6 dozer to place a 7-ft high operations soil road up the north slope of Cell 10 adjacent to the east of the riser trench. After the slope placement was completed, the dozer began to spread operations soil on the south floor of Cell 9 in a 3-ft high lift. At the end of the day, approximately 90% of the Cell 9 floor was covered with operations material.
- 5.0 <u>Cell 9 Riser Trench</u> –TWS placed the remaining riser pipe backfill up the riser trench in Cell 9 with a CAT D6 dozer. The pipe backfill was moisture conditioned by a laborer with a water hose and compacted with the CAT 312 excavator with attached hoe-pack. CQA tested and verified that the compaction met construction specifications.
- 6.0 Cell 10 Crest Pad CQA observed BMWC connecting the Cell 10 head works piping in the Cell 10 Crest Pad building.
- 7.0 Anchor Trench CQA observed ESI backfilling the Cell 9 and 10 anchor trench. TWS backfilled the air release points in the anchor trench in Cell 9. In addition, TWS backfilled the anchor trench to the east of the Cell 10 crest pad building, leaving air release points exposed in the anchor trench. TWS used the Hitachi 200 to place 5-6 lifts of backfill into the anchor trench. Each lift was moisture conditioned and compacted with the CAT 312 excavator with attached hoe-pack.

ENVIROTECH - CQA

DATE

10/19/10





| Project ID: | 01-0032 ERDF Cells 9-10 0 | Construction | Report Number: | 5-16-178 |
|----------------|--|---------------|----------------|----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Thursday, October 14, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Clear: Hi: 68°F Lo: 35°F |
| | The state of the s | | | Wind: 17-mph |

| FIELD NOTEBOOKS | | | | | |
|--------------------|----------------|-----------------------|----------------|--|--|
| Joe Voss Book 2 | Pages: 135-138 | Tyler Williams Book 3 | Pages: 124-126 | | |
| James Schut Book 2 | Pages: 84-88 | Ryan Swenson Book I | Pages: 71-73 | | |

| FIELD TESTING | | | | | |
|----------------------------------|------------|--------------------|--------|--|--|
| Submittal 5-18B: Manhole 36 Fill | Lifts: 5-8 | MH36-07 to MH36-10 | Passed | | |

| CQA HOLD POINTS | | | | | | |
|-------------------------------------|---|--|--|--|--|--|
| Submittal 5-18R-104 Cell 10 Primary | October 14, 2010 | Panels: P-84 to P-91 | | | | |
| Subgrade | 100 May 1 1 2 May 1 2 | NATIONAL AND | | | | |

| LABORATORY TESTING | | | | |
|-----------------------|-------|---------------------------|--|--|
| 5-18M Operations Soil | OP-20 | USCS and Proctor on-going | | |
| 5-18M Operations Soil | OP-21 | USCS on-going | | |
| 5-18M Operations Soil | OP-22 | USCS on-going | | |
| 5-18M Operations Soil | OP-23 | USCS on-going | | |
| 5-18M Operations Soil | OP-24 | USCS on-going | | |
| 5-18M Operations Soil | OP-25 | USCS and Proctor on-going | | |
| 5-18M Operations Soil | OP-26 | USCS on-going | | |
| 5-18M Operations Soil | OP-27 | USCS on-going | | |
| 5-18M Operations Soil | OP-28 | USCS on-going | | |
| 5-18M Operations Soil | OP-29 | USCS on-going | | |
| 5-18M Operations Soil | OP-30 | USCS and Proctor on-going | | |
| 5-18M Operations Soil | OP-31 | USCS on-going | | |
| 5-18M Operations Soil | OP-32 | USCS on-going | | |
| 5-18M Operations Soil | OP-33 | USCS on-going | | |
| 5-18M Operations Soil | OP-34 | USCS on-going | | |
| 5-18M Operations Soil | OP-35 | USCS and Proctor on-going | | |
| 5-18M Operations Soil | OP-36 | USCS on-going | | |
| 5-18M Operations Soil | OP-37 | USCS on-going | | |
| 5-18M Operations Soil | OP-38 | USCS on-going | | |
| 5-18M Operations Soil | OP-39 | USCS on-going | | |

GENERAL ACTIVITIES

1.0 Operations Cover – During placement of the riser pipes in Cell 10, CQA and WCH noted that less than 3-ft of operations cover was present west of the riser trench at the Cell 10 shoulder. Initially the correct amount of cover was present, but due to the displacement of material from the CAT 330 excavator, the cover was reduced below 3-ft. TWS corrected the situation by placing additional operations material in the non-conforming location.





| Project ID: . | . 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-178 |
|----------------|--|---------------|----------------|----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Thursday, October 14, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Clear: Hi: 68°F Lo: 35°F |
| | ************************************** | | | Wind: 17-mph |

CONSTRUCTION ACTIVITIES

1.0 Primary Geomembrane - CQA observed ESI deploying eight (8) panels of primary geomembrane on the south slope and floor of Cell 10. Panels P-84 to P-91 were deployed from the top of the south slope over a rub sheet. The panels were walked to the toe and pulled out over the floor with a track bobcat. After the panels were deployed, ESI utilized two (2) double wedge fusion welders to weld the panels together.

ESI performed repairs and conducted non-destructive testing on deployed primary geomembrane panels on the south half of the Cell 10 floor.

- 2.0 Cell 10 Sump CQA observed TWS utilizing the CAT 330 excavator to place the primary riser pipe through the stem wall in the Cell 10 crest pad building and down the Cell 10 riser trench to the sump. The pipes were inserted into the opening in the stem wall and hoisted down the slope with the CAT 330 aided by TWS laborers. The pipes were placed on the flat stock in the Cell 10 sump as per design drawings. The 12-in pipe was placed though the sump and connected to the leachate collection pipe in Cell 10. The pipe coupler connecting the leachate collection pipe to the riser pipe did not reach the required temperature for fusion welding; BMWC will address at a later date.
- 3.0 Operation Soil TWS hauled and spread operations soil in Cells 9 and 10. TWS hauled soil to the north toe of slope in Cell 9 and 10. TWS utilized the CAT D8 dozer to spread a road west and south across Cell 9, while two (2) CAT D6 dozers to spread the operations soil up the Cell 9 slope in a continuous 3-ft high lift. By the end of the day, approximately 90% of the north slope of Cell 9 was covered with operations material. After the slope placement was completed, the dozer began to spread operations soil on the south floor of Cell 9 in a 3-ft high lift. At the end of the day, approximately 95% of the Cell 9 floor was covered with operations material.
- 4.0 Leachate Transmission CQA observed TWS placing and compacting four (4) lifts of backfill around manhole #36. The fill was placed with the CAT 330 excavator, moisture conditioned, and compacted with a jumping jack hand compactor. CQA tested and verified that lifts 5-8 of the manhole #36 backfill met compaction specifications.
- 5.0 Cell 10 Crest Pad CQA observed BMWC connecting the Cell 10 head works piping in the Cell 10 Crest Pad building.
- 6.0 Anchor Trench CQA observed ESI backfilling the Cell 9 and 10 anchor trench. TWS backfilled the air release points in the anchor trench in Cell 9. In addition, TWS backfilled the anchor trench to the east of the Cell 10 crest pad building, leaving air release points exposed in the anchor trench. TWS used the Hitachi 200 to place 5-6 lifts of backfill into the anchor trench. Each lift was moisture conditioned and compacted with the CAT 312 excavator with attached hoe-pack.

ENVIROTECH - COA

DATE





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-179 |
|----------------|--|---------------|----------------|--------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Friday, October 15, 2010 |
| Contractor(s): | TradeWind Services | 6 | Weather: | Clear: Hi: 64°F Lo: 39°F |
| | The state of the s | | | Wind: 26-mph |

| FIELD NOTEBOOKS | | | | | |
|----------------------|--------------|-----------------------|----------------|--|--|
| Joe Voss Book 2 | Page: 139 | Tyler Williams Book 3 | Pages: 127-128 | | |
| James Schut Book 2 | Pages: 89-90 | Ryan Swenson Book 1 | Pages: 74-76 | | |
| Jamison Marsh Book I | Pages:1-4 | | | | |

| | LABORATORY TES | STING |
|-----------------------|----------------|---------------------------------|
| 5-18M Operations Soil | OP-20 | USCS and Proctor on-going |
| 5-18M Operations Soil | OP-21 | USCS: Passed |
| 5-18M Operations Soil | OP-22 | USCS: Passed |
| 5-18M Operations Soil | OP-23 | USCS: Passed |
| 5-18M Operations Soil | OP-24 | USCS: Passed |
| 5-18M Operations Soil | OP-25 | USCS and Proctor on-going |
| 5-18M Operations Soil | OP-26 | USCS on-going |
| 5-18M Operations Soil | OP-27 | USCS on-going |
| 5-18M Operations Soil | OP-28 | USCS on-going |
| 5-18M Operations Soil | OP-29 | USCS on-going |
| 5-18M Operations Soil | OP-30 | USCS and Proctor on-going |
| 5-18M Operations Soil | OP-31 | USCS on-going |
| 5-18M Operations Soil | OP-32 | USCS on-going |
| 5-18M Operations Soil | OP-33 | USCS on-going |
| 5-18M Operations Soil | OP-34 | USCS on-going - • |
| 5-18M Operations Soil | OP-35 | USCS and Proctor on-going |
| 5-18M Operations Soil | OP-36 | USCS on-going |
| 5-18M Operations Soil | OP-37 | USCS on-going |
| 5-18M Operations Soil | OP-38 | USCS on-going |
| 5-18M Operations Soil | OP-39 | USCS on-going |
| 5-18M Operations Soil | OP-40 | Sample Collected: |
| | | USCS and Proctor on-going |
| 5-18M Operations Soil | OP-41 | Sample Collected: USCS on-going |
| 5-18M Operations Soil | OP-42 | Sample Collected: USCS on-going |
| 5-18M Operations Soil | OP-43 | Sample Collected: USCS on-going |
| 5-18M Operations Soil | OP-44 | Sample Collected: USCS on-going |

GENERAL ACTIVITIES

1.0 Geomembrane Trail Welds – CQA discovered ESI had changed extrusion welders on Thursday, October 14th 2010 and did not perform a new trial weld. CQA informed TWS and WCH of the deficiency and collected a destructive sample of the new extrusion welder. The destructive sample was tested and met construction specifications.





| Project ID: | 01-0032 ERDF Cells 9-10 C | Construction | Report Number: | 5-16-179 |
|----------------|---|---------------|--|--------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Friday, October 15, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Clear: Hi: 64°F Lo: 39°F |
| | and designation of the second | | no contraction of the contractio | Wind: 26-mph |

GENERAL ACTIVITIES

- 2.0 Operations Soil TWS began placing operations soil on the Cell 9 and 10 slopes in a 1.5-ft high lift with the CAT D6 dozers in order minimize UV exposure to the primary geocomposite.
- 3.0 <u>Leachate Collection Pipe</u> Overnight, the 12-in primary leachate riser pipe pulled out of the coupler to the 12-in leachate collection pipe in Cell 10 due to the contraction of the riser pipe. BMWC refitted and electro-fusion welded the riser pipe to the collection pipe.

CONSTRUCTION ACTIVITIES

- 1.0 Primary Geomembrane CQA observed ESI performing repairs and conducted non-destructive testing on deployed primary geomembrane panels P58 to P-77 on the south half of the Cell 10 floor. The CQA surveyor, Stratton Surveying, was on-site to capture the primary liner survey of Cell 10.
- 2.0 Primary Geocomposite ESI deployed six (6) panels of primary geocomposite over the south berm of Cell 10. CQA witnessed ESI joining the geocomposite together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together and leistering patches over the butt seams.
- 3.0 Primary Geotextile After CQA verified that all testing was CQA observed ESI deploying twenty-six (26) rolls of 16 oz. geotextile over approved primary geomembrane on the Cell 10 floor. After ESI placed and unrolled the panels by hand, the 16 oz. geotextile was sewn together as per specifications.
- 4.0 Cell 10 Sump CQA observed TWS placing and Type B drainage gravel into the Cell 10 primary sump. The gravel was hauled in a payhauler to the Cell 10 sump over 7-ft high operations roads. The Type B gravel was placed into the Cell 9 sump and graded with a CAT 330 excavator aided by the TWS surveyor. The CQA surveyor was on-site to verify the grade and thickness of the Type B drainage gravel in the Cell 10 sump.
- 5.0 Operation Soil TWS hauled and spread operations soil in Cells 9 and 10. TWS hauled soil to the north toe of slope in Cell 9 and 10. TWS utilized the CAT D8 dozer to spread a road south across Cell 9, while two (2) CAT D6 dozers to spread the operations soil up the Cell 9 and 10 slope in a continuous 1.5-ft high lift. By the end of the day 100% of the north slope of Cell 9 and 15% of Cell 10 was covered with operations material. Approximately 95% of the Cell 9 floor was covered with operations material.

ENVIROTECH-CQA DATE





| Project ID: | 01-0032 ERDF Cells 9-10 |) Construction | Report Number: | 5-16-180 |
|----------------|-------------------------|----------------|----------------|----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Saturday, October 16, 2010 |
| Contractor(s): | TradeWind Services | 2 | Weather: | Clear: Hi: 63°F Lo: 36°F |
| | | | | Wind: 12-mph |

| FIELD NOTEBOOKS | | | | | |
|-----------------------|----------------|--------------------|----------|--|--|
| Tyler Williams Book 3 | Pages: 129-130 | James Schut Book 2 | Page: 91 | | |

| LABORATORY TESTING | | | |
|-----------------------|---------|---------------------------|--|
| 5-18M Operations Soil | OP-20 | USCS and Proctor on-going | |
| 5-18M Operations Soil | OP-25 | USCS and Proctor on going | |
| 5-18M Operations Soil | OP-26 | USCS on-going V | |
| 5-18M Operations Soil | OP-27 | USCS on-going | |
| 5-18M Operations Soil | OP-28 | USCS on-going | |
| 5-18M Operations Soil | OP-29 | USCS on-going | |
| 5-18M Operations Soil | OP-30 | USCS and Proctor on-going | |
| 5-18M Operations Soil | OP-31 | USCS on-going | |
| 5-18M Operations Soil | OP-32 | USCS on-going | |
| 5-18M Operations Soil | OP-33 | USCS on-going | |
| 5-18M Operations Soil | OP-34 | USCS on-going | |
| 5-18M Operations Soil | OP-35 | USCS and Proctor on-going | |
| 5-18M Operations Soil | OP-36 | USCS on-going | |
| 5-18M Operations Soil | OP-37 | USCS on-going | |
| 5-18M Operations Soil | OP-38 | USCS on-going | |
| 5-18M Operations Soil | OP-39 | USCS on-going | |
| 5-18M Operations Soil | . OP-40 | USCS and Proctor on-going | |
| 5-18M Operations Soil | OP-41 | USCS on-going | |
| 5-18M Operations Soil | OP-42 | USCS on-going | |
| 5-18M Operations Soil | OP-43 | USCS on-going | |
| 5-18M Operations Soil | OP-44 | USCS on-going | |

CONSTRUCTION ACTIVITIES

- 1.0 Primary Geocomposite ESI deployed sixteen (16) panels of primary geocomposite over the south berm of Cell 10. CQA witnessed ESI joining the geocomposite together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together.
- 2.0 Primary Geotextile After CQA verified that all testing was CQA observed ESI deploying four (4) rolls of 16 oz. geotextile over approved primary geomembrane on the Cell 10 floor. After ESI placed and unrolled the panels by hand, the 16 oz. geotextile was double wedge welded together as per specifications.

ENVIROTECH - CQA

DATE

PAGE 1 OF 1





| Project ID: | 01-0032 ERDF Cells 9-10 (| Construction | Report Number: | 5-16-181 |
|----------------|---------------------------|---------------|----------------|-------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Monday, October 18, 2010 |
| Contractor(s): | TradeWind Services | 6 | Weather: | Pt. Cloudy: Hi: 65°F Lo: 31°F |
| | | | | Wind: 10-mph |

| FIELD NOTEBOOKS | | | | |
|--------------------|----------------|-----------------------|----------------|--|
| Joe Voss Book 2 | Pages: 140-141 | Tyler Williams Book 3 | Pages: 131-133 | |
| James Schut Book 2 | Pages: 92-94 | Ryan Swenson Book I | Pages: 79-81 | |
| Jamison Marsh Book | Pages: 1-4 | Luke Hay Book 3 | Pages: 39-41 | |

| CQA HOLD POINTS | | | |
|-------------------------------------|------------------|-----------------------|--|
| Submittal 5-18R-105 Cell 10 Primary | October 18, 2010 | Panels: P-92 to P-101 | |
| Subgrade | | | |

| | LABORATORY TE | STING |
|-----------------------|---------------|--|
| 5-18M Operations Soil | OP-20 | USCS and Proctor on-going |
| 5-18M Operations Soil | OP-25 | USCS and Proctor on-going |
| 5-18M Operations Soil | OP-26 | USCS: Passed |
| 5-18M Operations Soil | OP-27 | USCS: Passed |
| 5-18M Operations Soil | OP-28 | USCS: Passed |
| 5-18M Operations Soil | OP-29 | USCS: Passed |
| 5-18M Operations Soil | OP-30 | USCS and Proctor: Passed |
| 5-18M Operations Soil | OP-31 | USCS: Passed |
| 5-18M Operations Soil | OP-32 | USCS: Passed |
| 5-18M Operations Soil | OP-33 | USCS on-going |
| 5-18M Operations Soil | • OP-34 | USCS on-going |
| 5-18M Operations Soil | OP-35 | USCS and Proctor on-going |
| 5-18M Operations Soil | OP-36 | USCS on-going |
| 5-18M Operations Soil | OP-37 | USCS on-going |
| 5-18M Operations Soil | OP-38 | USCS on-going |
| 5-18M Operations Soil | OP-39 | USCS on-going |
| 5-18M Operations Soil | OP-40 | USCS and Proctor on-going |
| 5-18M Operations Soil | OP-41 | USCS on-going |
| 5-18M Operations Soil | OP-42 | USCS on-going |
| 5-18M Operations Soil | OP-43 | USCS on-going |
| 5-18M Operations Soil | OP-44 | Sample Collected: USCS on-going |
| 5-18M Operations Soil | OP-45 | Sample Collected: |
| | | USCS and Proctor on-going |
| 5-18M Operations Soil | OP-46 | Sample Collected: USCS on-going |
| 5-18M Operations Soil | OP-47 | Sample Collected: USCS on-going |
| 5-18M Operations Soil | OP-48 | Sample Collected: USCS on-going |
| 5-18M Operations Soil | OP-49 | Sample Collected: USCS on-going |
| 5-18M Operations Soil | OP-50 | Sample Collected: USCS and Proctor on-going |





| Project ID: | 01-0032 ERDF Cells 9-10 |) Construction | Report Number: | 5-16-181 |
|----------------|-------------------------|----------------|----------------|---|
| Job Number: | S013213A00 | Staff On-site | Date: | Monday, October 18, 2010 |
| Contractor(s): | TradeWind Services | 6 | Weather: | Pt. Cloudy: Hi: 65°F Lo: 31°F Wind: 10-mph |

CONSTRUCTION ACTIVITIES

1.0 Primary Geomembrane – CQA observed ESI deploying ten (10) panels of primary geomembrane on the south slope and floor of Cell 10. Panels P-92 to P-101 were deployed from the top of the south slope over a rub sheet. The panels were walked to the toe and pulled out over the floor with a track bobcat. After the panels were deployed, ESI utilized three (3) double wedge fusion welders to weld the panels together.

ESI performed repairs and conducted non-destructive testing on deployed primary geomembrane panels on the south half of the Cell 10 floor.

2.0 Cell 10 Sump – TWS deployed and ESI sewed one (1) roll of 8 oz. geotextile over the drainage gravel. The geotextile was leistered to the primary geocomposite on the north slope.

In addition, BMWC completed welding the 12-in leachate collection pipe to the 12-in riser pipe south of the Cell 10 sump that was started Thursday, October 19, 2010. After the pipe was fused, TWS utilized the CAT 312 excavator aided by the TWS surveyor to fill and grade the Type A drainage gravel over the pipe.

3.0 Operation Soil – TWS hauled and spread operations soil in Cells 9 and 10. TWS hauled soil to the north toe of slope in Cell 9 and 10. TWS utilized the CAT D8 dozer to stockpile soil at the bottom of the Cell 10 slope, while two (2) CAT D6 dozers to spread the operations soil up the Cell 10 slope in a continuous 1.5-ft high lift. By the end of the day 100% of the north slope of Cell 9 and 40% of Cell 10 was covered with operations material. Approximately 95% of the Cell 9 floor was covered with operations material.

ENYIROTECH-CQA

10/21/10 DATE





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-182 |
|----------------|--------------------------------------|---------------|----------------|---|
| Job Number: | S013213A00 | Staff On-site | Date: | Tuesday, October 19, 2010 |
| Contractor(s): | TradeWind Services | 8 | Weather | Pt. Cloudy: Hi: 66°F Lo:31°F Wind: 9-mph |

| FIELD NOTEBOOKS | | | | |
|----------------------|----------------|-----------------------|----------------|--|
| Joe Voss Book 2 | Pages: 142-145 | Tyler Williams Book 3 | Pages: 134-137 | |
| James Schut Book 2 | Pages: 95-98 | Ryan Swenson Book 1 | Page: 82 | |
| Jamison Marsh Book I | Pages: 10-12 | Luke Hay Book 3 | Pages: 42-44 | |

| | FIELD TE | STING | |
|--|-------------|--------------------|--------|
| Submittal 5-18B: Manhole 36 Fill | Lifts: 9-13 | MH36-11 to MH36-15 | Passed |
| Submittal 5-18Q: Cell 10 Primary Riser | Lift: I | RT10-03 | Passed |

| | CQA HOLD POINTS | |
|---|------------------|---------------|
| Submittal 5-18R-106 Cell 10 Primary Subgrade | October 19, 2010 | Panels: P-102 |

| LABORATORY TESTING | | | |
|-----------------------|-------|--|--|
| 5-18M Operations Soil | OP-20 | USCS and Proctor: Passed | |
| 5-18M Operations Soil | OP-25 | USCS and Proctor: Passed | |
| 5-18M Operations Soil | OP-33 | USCS: Passed | |
| 5-18M Operations Soil | OP-34 | USCS: Passed | |
| 5-18M Operations Soil | OP-35 | USCS and Proctor: Passed | |
| 5-18M Operations Soil | OP-36 | USCS on-going | |
| 5-18M Operations Soil | OP-37 | USCS on-going | |
| 5-18M Operations Soil | OP-38 | USCS on-going | |
| 5-18M Operations Soil | OP-39 | USCS on-going | |
| 5-18M Operations Soil | OP-40 | USCS and Proctor on-going | |
| 5-18M Operations Soil | OP-41 | USCS on-going | |
| 5-18M Operations Soil | OP-42 | USCS on-going | |
| 5-18M Operations Soil | OP-43 | USCS on-going | |
| 5-18M Operations Soil | OP-44 | USCS on-going | |
| 5-18M Operations Soil | OP-45 | USCS and Proctor on-going | |
| 5-18M Operations Soil | OP-16 | USCS on-going | |
| 5-18M Operations Soil | OP-47 | USCS on-going | |
| 5-18M Operations Soil | OP-48 | USCS on-going | |
| 5-18M Operations Soil | OP-49 | USCS on-going | |
| 5-18M Operations Soil | OP-50 | USCS and Proctor on-going | |
| 5-18M Operations Soil | OP-51 | Sample Collected: USCS on-going | |
| 5-18M Operations Soil | OP-52 | Sample Collected: USCS on-going | |
| 5-18M Operations Soil | OP-53 | Sample Collected: USCS on-going | |
| 5-18M Operations Soil | OP-54 | Sample Collected: USCS on-going | |
| 5-18M Operations Soil | OP-55 | Sample Collected: USCS and Proctor on-going | |





| Project ID: | 01-0032 ERDF Cells 9-1 | Construction | Report Number: | 5-16-182 |
|----------------|------------------------|---------------|----------------|---|
| Job Number: | S013213A00 | Staff On-site | Date: | Tuesday, October 19, 2010 |
| Contractor(s): | TradeWind Services | 8 | Weather: | Pt. Cloudy: Hi: 66°F Lo:31°F Wind: 9-mph |

GENERAL ACTIVITIES

- 1.0 Weekly Progress Meeting -The construction subcontractor's weekly progress meeting on Tuesday. October 19th, 2010 at 10:00 am, in the meeting trailer.
- 2.0 CQA Weekly Progress Meeting CQA attended the CQA subcontractor's weekly progress meeting on Tuesday, October 19th, 2010 at 10:15 am in the meeting trailer.
- 3.0 North Anchor Trench CQA observed that the air vent holes in the secondary-primary liner systems were not welded in the anchor trench prior to backfilling of the anchor trench. Upon notifying TWS CQC, Dave Sterly, he immediately halted operations and began discussing repair options. CQA also informed CQA STR Charlie Skiba with WCH.

CONSTRUCTION ACTIVITIES

1.0 Primary Geomembrane - CQA observed ESI deploying one (1) panel of primary geomembrane on south half of the Cell 10 floor, between the north-south facing panels and the east-west facing panels. Panel P-102 was deployed from the Cell 10 termination and then cut to fit the 8-ft wide opening in the liner. After the panels were deployed, ESI welded the panel into place.

ESI performed repairs and conducted non-destructive testing on deployed primary geomembrane panels on the south half of the Cell 10 floor.

The CQA surveyor, Stratton Surveying, was on-site to capture the primary liner survey.

- 2.0 Primary Geotextile CQA observed ESI deploying two (2) rolls of 16 oz. geotextile down the 3:1 slope on the east side of the Cell 10 floor. The geotextile was double wedge welded to the deployed geotextile on the Cell 10 floor
- 3.0 <u>Cell 10 Sump</u> <u>CQA</u> observed TWS utilizing the CAT 312 excavator aided by the TWS surveyor to fill and grade the Type A drainage gravel over the pipe.

After the drainage gravel was placed as per design drawings, the CQA surveyor, Stratton Survey, verified the gravel thickness.

In addition, TWS placed one (1) lift of fill over the primary riser pipes in Cell 10 with the CAT D6 LGP dozer. The soil was moisture conditioned with a water hose and compacted with the CAT 312 excavator with an attached hoe pack compactor. CQA tested and verified that lift 1 of the primary riser pipe backfill met compaction specifications.

CQA also observed ESI placing 8 oz. geotextile around the Cell 10 riser pipes in order to segregate the Type B drainage gravel from the operations soil.





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-182 |
|----------------|--------------------------------------|---------------|----------------|---|
| Job Number: | S013213A00 | Staff On-site | Date: | Tuesday, October 19, 2010 |
| Contractor(s): | TradeWind Services | 8 | Weather: | Pt. Cloudy: Hi: 66°F Lo:31°F Wind: 9-mph |

CONSTRUCTION ACTIVITIES

- 4.0 Operation Soil TWS hauled and spread operations soil in Cells 9 and 10. TWS hauled soil to the north toe of slope in Cell 9 and 10. TWS utilized the CAT D8 dozer to stockpile soil at the bottom of the Cell 10 slope, while two (2) CAT D6 dozers to spread the operations soil up the Cell 10 slope in a continuous 1.5-ft high lift. By the end of the day 75% of Cell 10 was covered with operations material. Approximately 95% of the Cell 9 floor was covered with operations material.
- 5.0 Anchor Trench CQA observed ESI backfilling the Cell 9 anchor trench. TWS backfilled the air release points in the anchor trench in Cell 9. TWS used the Hitachi 200 to place 5-6 lifts of backfill into the anchor trench. Each lift was moisture conditioned and compacted with the CAT 312 excavator with attached hoe-pack. Operations were halted midshift due to the air release vents not being welded prior to backfilling. See General Activities for more information.
- 6.0 <u>Leachate Transmission</u> CQA observed TWS placing five (5) lifts of fill around manhole MH-36 with the CAT 330 excavator. TWS compacted lifts 9-10 with a jumping jack hand compactor and lifts 11-13 with the CAT CS 563 compactor. CQA tested and verified that lifts 9-13 met compaction specifications.

ENVIROTECH-CQA DATE





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-183 |
|----------------|--------------------------------------|---------------|--|-------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Wednesday, October 20, 2010 |
| Contractor(s): | TradeWind Services | 9 | Weather: | Pt. Cloudy: Hi: 67°F Lo: 38°F |
| | | | - vygopa a a a a a a a a a a a a a a a a a a | Wind: 11-mph |

| | Field | NOTEBOOKS | |
|----------------------|----------------|-----------------------|----------------|
| Joe Voss Book 2 | Pages: 146-148 | Tyler Williams Book 3 | Pages: 138-140 |
| James Schut Book 2 | Page: 99 | Luke Hay Book 3 | Pages: 45-47 |
| Jamison Marsh Book 1 | Pages: 13-15 | | |

| | LABORATORY TES | STING |
|-----------------------|----------------|-----------------------------|
| 5-18M Operations Soil | OP-36 | USCS: Passed |
| 5-18M Operations Soil | OP-37 | USCS on-going |
| 5-18M Operations Soil | OP-38 | USCS: Passed |
| 5-18M Operations Soil | OP-39 | USCS on-going |
| 5-18M Operations Soil | OP-40 | USCS and Proctor on-going |
| 5-18M Operations Soil | OP-41 | USCS: Passed |
| 5-18M Operations Soil | OP-42 | USCS: Passed |
| 5-18M Operations Soil | OP-43 | USCS on-going |
| 5-18M Operations Soil | OP-44 | USCS: Passed |
| 5-18M Operations Soil | OP-45 | USCS and Proctor on-going |
| 5-18M Operations Soil | OP-46 | USCS on-going |
| 5-18M Operations Soil | OP-47 | USCS on-going |
| 5-18M Operations Soil | OP-48 | USCS on-going |
| 5-18M Operations Soil | OP-49 | USCS on-going |
| 5-18M Operations Soil | OP-50 | . USCS and Proctor on-going |
| 5-18M Operations Soil | OP-51 | USCS on-going |
| 5-18M Operations Soil | OP-52 | USCS on-going |
| 5-18M Operations Soil | OP-53 | USCS on-going |
| 5-18M Operations Soil | OP-54 | USCS on-going |
| 5-18M Operations Soil | OP-55 | USCS and Proctor on-going |

GENERAL ACTIVITIES

- 1.0 CQA Officer Visit The CQA officer, Rob Stallings, was on-site to inspect the Cell construction and CQA activities.
- 2.0 North Anchor Trench TWS voluntarily decided to excavate the Cell 9 north anchor trench to uncover the vent holes in the north anchor trench. CQA observed TWS utilizing the Hitachi 200 to excavate the six (6) locations that were backfilled. When the Hitachi 200 excavator came close to the liner, the excavator was removed and two (2) TWS laborers completed the excavation with hand tools. CQA verified that the liner was not damaged during excavation.

Following the removal the anchor trench backfill, CQA witnessed ESI welding extrusion beads over the twelve (12) vent holes in the primary/secondary geomembrane. In addition, CQA witnessed ESI completing the welding on all the vent holes in the Cell 10 anchor trench.





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-183 |
|----------------|--------------------------------------|---------------|--|-------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Wednesday, October 20, 2010 |
| Contractor(s): | TradeWind Services | 9 | Weather: | Pt. Cloudy: Hi: 67°F Lo: 38°F |
| | er iki edere | | out of the same of | Wind: 11-mph |

CONSTRUCTION ACTIVITIES

1.0 Primary Geomembrane – CQA observed ESI performing repairs and conducting non-destructive testing on deployed primary geomembrane panels on the south half of the Cell 10 floor

The CQA surveyor. Stratton Surveying, was on-site to capture the primary liner survey.

- 2.0 Primary Drainage Gravel TWS placed Type A gravel in Cell 10. TWS hauled the gravel to the north end of the primary gravel placement in Cell 10. The gravel was spread with one (1) CAT D6 LGP dozer in a 1-ft thick lift across the Cell 10 floor in grid cells G7 to G10. During the placement of Type A gravel, CQA continuously observed gravel placement, and a TWS laborer was present to address any trapped wrinkles or other deficiencies.
- 3.0 Operation Soil TWS hauled and spread operations soil in Cells 9 and 10. TWS hauled soil to the north toe of slope in Cell 9 and 10. TWS utilized the CAT D8 dozer to stockpile soil at the bottom of the Cell 10 slope, while two (2) CAT D6 dozers to spread the operations soil up the Cell 10 slope in a continuous 1.5-ft high lift. After the north slope of Cells 9 and 10 were covered by operations soil. TWS placed the remaining 1.5-ft of fill over the rest of the operations soil with two (2) CAT D6 dozers and the CAT D8 dozer. By the end of the day 100% of the north slope of Cell 10 was covered with operations material.

ENVIROTECH-CQA

DATE

M1 Page 322 of 3





| Project 1D: | 01-0032 ERDF Cells 9- | 0 Construction | Report Number: | 5-16-184 |
|----------------|-----------------------|----------------|----------------|-------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Thursday, October 21, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Pt. Cloudy: Hi: 66°F Lo: 34°F |
| | and order | | | Wind: 9-mph |

| | FIELD | NOTEBOOKS | |
|----------------------|----------------|-----------------------|----------------|
| Joe Voss Book 2 | Pages: 149-150 | Tyler Williams Book 3 | Pages: 141-143 |
| James Schut Book 2 | Pages: 100-101 | Luke Hay Book 3 | Page: 48 |
| Jamison Marsh Book 1 | Pages: 16-17 | | |

| LABORATORY TESTING | | | | | |
|-----------------------|-------|---------------------------|--|--|--|
| 5-18M Operations Soil | OP-37 | USCS: Passed | | | |
| 5-18M Operations Soil | OP-39 | USCS: Passed | | | |
| 5-18M Operations Soil | OP-40 | USCS and Proctor: Passed | | | |
| 5-18M Operations Soil | OP-43 | USCS: Passed | | | |
| 5-18M Operations Soil | OP-45 | USCS and Proctor on-going | | | |
| 5-18M Operations Soil | OP-46 | USCS on-going | | | |
| 5-18M Operations Soil | OP-47 | USCS on-going | | | |
| 5-18M Operations Soil | OP-48 | USCS on-going | | | |
| 5-18M Operations Soil | OP-49 | USCS on-going | | | |
| 5-18M Operations Soil | OP-50 | USCS and Proctor on-going | | | |
| 5-18M Operations Soil | OP-51 | USCS on-going | | | |
| 5-18M Operations Soil | OP-52 | USCS on-going | | | |
| 5-18M Operations Soil | OP-53 | USCS on-going | | | |
| 5-18M Operations Soil | OP-54 | USCS on-going | | | |
| 5-18M Operations Soil | OP-55 | USCS and Proctor on-going | | | |

GENERAL ACTIVITIES

1.0 Cell 10 Primary Geomembrane – CQA extrusion weld destructive tests DP-80, DP-81, and DP-82 failed to meet contract specifications. CQA and ESI repeatedly bracketed the destructive testing and retested. Upon investigation, CQA discovered that ESI had changed grinder operators Wednesday October 20, 2010. After discussion following several failed destructive samples, ESI decided to remove or cap all extrusion welds back to the last destruct passed on October 19th, 2010. All extrusion welds conducted on October 20th and 21st were capped.

As a corrective action, the grinder operator was replaced and will grid no additional seams.

CONSTRUCTION ACTIVITIES

1.0 Primary Geomembrane – CQA observed ESI performing repairs and conducting non-destructive testing on deployed primary geomembrane panels on the south half of the Cell 10. See General Activities for more information.





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-184 |
|----------------|--------------------------------------|---------------|----------------|-------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Thursday, October 21, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Pt. Cloudy: Hi: 66°F Lo: 34°F |
| | | | | Wind: 9-mph |

CONSTRUCTION ACTIVITIES

- 2.0 Primary Drainage Gravel TWS placed stockpiled Type A gravel in Cell 10. The gravel was spread with one (1) CAT D6 LGP dozer in a 1-ft thick lift across the Cell 10 floor in grid cells H7 to 110. During the placement of Type A gravel, CQA continuously observed gravel placement, and a TWS laborer was present to address any trapped wrinkles or other deficiencies.
- 3.0 Operation Soil TWS hauled and spread operations soil in Cells 9 and 10. TWS hauled soil to the north toe of slope in Cell 9 and 10. TWS utilized the CAT D8 dozer to stockpile soil at the bottom of the Cell 10 slope, while two (2) CAT D6 dozers to spread the operations soil up the Cell 10 slope. The dozers concentrated on increasing the thickness of the operations soil on the Cell 9 and 10 slope to 3-ft of thickness.
- 4.0 Cell 9 Crest Pad Building BMWC continued to assemble the leachate pipe collection piping in the Cell 9 Crest Pad building.





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-185 |
|--|--------------------------------------|---------------|----------------|---------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Friday, October 22, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Cloudy: Hi: 68°F Lo: 40°F |
| occupant of the state of the st | | | | Wind: 18-mph |

| SECTION CONTRACTOR CON | FIELD | NOTEBOOKS | |
|--|----------------|-----------------------|----------------|
| Joe Voss Book 2 | Pages: 151-152 | Tyler Williams Book 3 | Pages: 144-145 |
| James Schut Book 2 | Pages: 102-103 | Luke Hay Book 3 | Page: 49 |
| Jamison Marsh Book 1 | Page: 18 | | 4000 |

| LABORATORY TESTING | | | | | |
|-----------------------|-------|---------------------------|--|--|--|
| 5-18M Operations Soil | OP-45 | USCS and Proctor: Passed | | | |
| 5-18M Operations Soil | OP-46 | USCS: Passed | | | |
| 5-18M Operations Soil | OP-47 | USCS: Passed | | | |
| 5-18M Operations Soil | OP-48 | USCS: Passed | | | |
| 5-18M Operations Soil | OP-49 | USCS: Passed | | | |
| 5-18M Operations Soil | OP-50 | USCS and Proctor on-going | | | |
| 5-18M Operations Soil | OP-51 | USCS: Passed | | | |
| 5-18M Operations Soil | OP-52 | USCS: Passed | | | |
| 5-18M Operations Soil | OP-53 | USCS: Passed | | | |
| 5-18M Operations Soil | OP-54 | USCS: Passed | | | |
| 5-18M Operations Soil | OP-55 | USCS and Proctor on-going | | | |

GENERAL ACTIVITIES

1.0 Department of Health Inspection – The Washington Department of Health was on-site to conduct the annual inspection of the portable nuclear gauge permit. Victoria Dix inspected the Envirotech program, storage, and portable nuclear gauge. Victoria Dix indicated that no deficiencies with one note to replace the serial plates on the Troxler unit.

CONSTRUCTION ACTIVITIES

- 1.0 Primary Geomembrane CQA observed ESI performing repairs and conducting non-destructive testing on deployed primary geomembrane panels on the south half of the Cell 10. ESI began capping the repairs that failed the destructive testing on Thursday, October 21 2010.
- 2.0 Primary Drainage Gravel TWS placed stockpiled Type A gravel in Cell 10. The gravel was spread with two (2) CAT D6 LGP dozer in a 1-ft thick lift across the Cell 10 floor in grid cells I6 to J10. During the placement of Type A gravel, CQA continuously observed gravel placement, and a TWS laborer was present to address any trapped wrinkles or other deficiencies.
- 3.0 Primary Geotextile CQA observed ESI deploying fourteen (14) rolls of 16 oz. geotextile over approved secondary geomembrane on the south side of the Cell 10 floor. After the geotextile was deployed, CQA observed ESI double wedge welded the panels together as per specifications.





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-185 |
|----------------|--------------------------------------|---------------|----------------|---|
| Job Number: | S013213A00 | Staff On-site | Date: | Friday, October 22, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Cloudy: Hi: 68°F Lo: 40°F Wind: 18-mph |

| | CONSTRUCTION ACTIVITIES | |
|---|---|--|
| 4.0 | Operation Soil – TWS hauled and spread operations soil in Cells 9 and 10. TWS hauled soil to the north toe of slope in Cell 9 and 10. TWS utilized the CAT D8 dozer and a CAT D6 dozers to spread the operations soil up the Cell 10 slope. | |
| | The dozers concentrated on increasing the thickness of the operations soil on the Cell 9 and 10 slope to 3-ft of thickness. | |
| CONTRACTOR | | |
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ENVIROTECH - CQA

10/26/10 DATE





| Project ID: | 01-0032 ERDF Cells 9-1 | 0 Construction | Report Number: | 5-16-186 |
|----------------|------------------------|----------------|----------------|--------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Monday, October 25, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Pt. Cloudy with High Winds |
| | 4444 | | | Hi: 57°F Lo: 43°F Wind: 41-mph |

| FIELD NOTEBOOKS | | | | |
|----------------------|----------------|-----------------------|----------------|--|
| James Schut Book 2 | Pages: 104-105 | Tyler Williams Book 3 | Pages: 146-149 | |
| Jamison Marsh Book 1 | Pages: 19-20 | Luke Hay Book 3 | Page: 50 | |

| LABORATORY TESTING | | | | |
|-----------------------|-------|--------------------------|--|--|
| 5-18M Operations Soil | OP-50 | USCS and Proctor: Passed | | |
| 5-18M Operations Soil | OP-55 | USCS and Proctor; Passed | | |

GENERAL ACTIVITIES

- 1.0 Weather Due to low temperatures, high winds, and a chance for rain, ESI performed no geomembrane detail work. ESI shutdown prior to lunch.
- 2.0 Ground Penetrating Radar WCH performed a ground penetrating radar (GPR) survey of the primary drainage gravel haul road in Cell 10. Results of the survey will appear in a later report.

CONSTRUCTION ACTIVITIES

- 1.0 Primary Geomembrane The CQA surveyor was on-site to conduct the primary liner as-built survey of Cell 10.
- 2.0 Primary Drainage Gravel TWS placed stockpiled Type A gravel in Cell 10. The gravel was spread with two (2) CAT D6 LGP dozer in a 1-ft thick lift across the Cell 10 floor in grid cells J6 to K10. During the placement of Type A gravel, COA continuously observed gravel placement, and a TWS laborer was present to address any deficiencies.
- 3.0 Primary Geotextile CQA observed ESI deploying three (3) rolls of 16 oz. geotextile over approved secondary geomembrane on the south side of the Cell 10 floor. After the geotextile was deployed, CQA observed ESI double wedge welded panels together as per specifications.
- 4.0 Anchor Trench CQA observed ESI backfilling the Cell 9 and 10 north anchor trenches. TWS used the Hitachi 200 to place 5-6 lifts of backfill into the air release points on the north anchor trench. Each lift was moisture conditioned and compacted with the CAT 312 excavator with attached hoe-pack. The final lift of soil was compacted with the CAT CS 563 compactor for the entire length of the anchor trench.
- 5.0 Operation Soil TWS spread operations soil in Cells 9 and 10. TWS utilized the CAT D8 dozer and a CAT D6 dozers to spread the operations soil up the Cell 10 slope. The dozers concentrated on increasing the thickness of the operations soil on the Cell 9 and 10 slope to 3-ft of thickness.

COA also observed TWS constructing the north slope rain flap detail. Sand bags were placed underneath the rain flap to prop it in a more vertical direction. The CAT 312 excavator placed soil between the rain flap and the primary geomembrane. As the CAT 312 excavator placed soil from the bottom of the slope, the sand bags were removed. CQA verified that the rain flap was constructed as per the design drawings.

M1 Page 327 of 376

10/26/10

PAGE 1 OF 1





| Project ID: | 01-0032 ERDF Cells 9-10 (| Construction | Report Number: | 5-16-187 |
|----------------|---------------------------|---------------|----------------|---------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Tuesday, October 26, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Cloudy: Hi: 58°F Lo: 41°F |
| | paga- | | | Wind: 30-mph |

| FIELD NOTEBOOKS | | | | |
|--------------------|----------------|-----------------------|----------------|--|
| Joe Voss Book 2 | Pages: 153-154 | Tyler Williams Book 3 | Pages: 150-151 | |
| James Schut Book 2 | Pages: 106-108 | Jamison Marsh Book I | Pages: 21-23 | |

GENERAL ACTIVITIES

- 1.0 Ground Penetrating Radar WCH GPR survey yesterday, Monday, October 25 2010, found no evidence of admix displacement under the drainage gravel road in Cell 10.
- 2.0 Weekly Progress Meeting The construction subcontractor's weekly progress meeting on Tuesday. October 26th, 2010 at 10:00 am. in the meeting trailer.
- 3.0 CQA Weekly Progress Meeting CQA attended the CQA subcontractor's weekly progress meeting on Tuesday, October 26th, 2010 at 10:15 am in the meeting trailer.

CONSTRUCTION ACTIVITIES

- 1.0 <u>Primary Geomembrane</u> CQA observed ESI performing repairs and conducting non-destructive testing on deployed primary geomembrane panels on the south half of the Cell 10.
- 2.0 <u>Leachate Collection</u> CQA observed TWS utilizing a CAT 312 excavator to remove the drainage gravel though the center line of Cell 10 from the exposed leachate collection pipe to the edge of the placed gravel in Cell 10. In order to keep from damaging the underlying geosynthetics, TWS laborers removed the last 2-3 inches of drainage gravel with shovels. After the trench was completed, TWS placed the 12-in HDPE perforated leachate collection pipe into the trench. CQA observed and verified that no rock was trapped between the pipe and the underlying geotextile. Jake Williams, TWS certified welder, electro-fusion welded the in-place 12-in pipe leachate collection pipe to the installed pipe. After the pipe was welded, the CAT 312 excavator replaced the gravel and constructed a 1-ft high berm over the installed leachate collection pipe with the aid of the TWS surveyor. TWS left cardboard tubes in the drainage gravel to allow the CQA surveyor to as-built the pipe at a later date.
- 3.0 Primary Drainage Gravel TWS placed stockpiled Type A gravel in Cell 10. The gravel was spread with one (1) CAT D6 LGP dozer in a 1-ft thick lift across the Cell 10 floor in grid cells J6 to J10. During the placement of Type A gravel, CQA continuously observed gravel placement, and a TWS laborer was present to address any deficiencies.
- 4.0 Primary Geotextile CQA observed ESI deploying three (3) rolls of 16 oz. geotextile over approved secondary geomembrane on the south side of the Cell 10 floor. After the geotextile was deployed, CQA observed ESI double wedge welded panels together as per specifications.
- 5.0 Operation Soil TWS spread operations soil in Cells 9 and 10. TWS utilized the CAT D8 dozer and two (2) CAT D6 dozers to spread the operations soil up the east side of the Cell 10 slope. The dozers concentrated on increasing the thickness of the operations soil on the Cell 9 and 10 slope to 3-ft of thickness. Later in the day, CQA observed TWS constructing the operations termination berm on the north slope of Cell 10 with a CAT D6 LGP dozer.

ENVIROTECH-CQA

DATE

M1 Page 328 of 376





| Bankbusco. | Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-188 |
|------------|----------------|-------------------------|---------------|----------------|-----------------------------|
| 200000000 | Job Number: | S013213A00 | Staff On-site | Date: | Wednesday, October 27, 2010 |
| Seculosom | Contractor(s): | TradeWind Services | 5 | Weather: | Overcast: Hi: 60°F Lo: 35°F |
| 200000000 | | | | | Wind: 23-mph |

| Sentamenter | FIELD NOTEBOOKS | | | | |
|--|---|--|--|--|--|
| Santancas | Joe Voss Book 2 Pages: 155-156 Tyler Williams Book 3 Pages: 152-154 | | | | |
| and the same of th | James Schut Book 2 Pages: 109-110 Luke Hay Book 3 Page: 51 | | | | |

GENERAL ACTIVITIES

1.0 Primary Drainage Gravel – TWS received permission from WCH engineering to blend the excess Type B drainage gravel with the Type A drainage gravel for placement in the Cell 10 primary drainage gravel layer.

CONSTRUCTION ACTIVITIES

1.0 Primary Geomembrane – CQA witnessed ESI constructing the primary boots for the secondary leachate riser pipes at the shoulder of slope in Cell 9 south the Cell 9 crest pad building. ESI constructed, welded, and spark tested two (2) 12-in pipe boots around the two secondary riser pipes. CQA verified that the boots were constructed as per the design drawings.

The CQA surveyor was on-site to conduct the primary liner survey.

- 2.0 Primary Geotextile CQA observed ESI deploying one (1) roll of 16 oz. geotextile over the Cell 10 termination on the north slope. After the geotextile was in-place, it was sewn to the surrounding geotextile.
- 3.0 <u>Leachate Collection</u> The CQA surveyor was on-site to capture the as-built of the 12-in leachate collection pipe on the center line of Cell 10. The surveyor used the cardboard tubes placed in the drainage gravel to locate the leachate pipe. After the pipe was as-built, the cardboard tubes were removed and the gravel replaced.
- 4.0 Primary Drainage Gravel TWS placed stockpiled Type A gravel in Cell 10. The gravel was spread with one (1) CAT D6 LGP dozer in a 1-ft thick lift across the Cell 10 floor in grid cells J6 to M6. During the placement of Type A gravel, CQA continuously observed gravel placement, and a TWS laborer was present to address any deficiencies.

The CQA surveyor was on-site to capture the as-built survey of the drainage.

- 5.0 8 oz. Geotextile After the as-built of the drainage gravel was completed, CQA observed ESI deploying ten (10) rolls of 8 oz. geotextile (Type A) over approved primary drainage gravel on the south side of the Cell 10 floor in front of the operations placement. After ESI placed and unrolled the panels by hand, the 8 oz. geotextile was sewn together as per specifications.
- 6.0 Operation Soil TWS spread operations soil in Cells 9 and 10. TWS utilized the CAT D8 dozer and one (1) CAT D6 dozers to spread the operations soil up the east side of the Cell 10 slope. The dozers concentrated on increasing the thickness of the operations soil on the Cell 9 and 10 slope to 3-ft of thickness and trimming the slope to grade.

CQA also observed TWS spreading stockpiled operations soil on the north half of the Cell 10 floor with one (1) CAT D6 dozer to a lift thickness of 3-ft. After the 8 oz. geotextile installation was completed, CQA witnessed TWS spreading stockpiled operations soil south, across the Cell 10 floor over the 8 oz. geotextile.

ENVIROTECH - CQA

DATE DATE





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-189 |
|--|-------------------------|---------------|----------------|-----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Thursday, October 28, 2010 |
| Contractor(s): | TradeWind Services | 3 | Weather: | Overcast: Hi: 52°F Lo: 45°F |
| Property of the Control of the Contr | | | | Wind: 19-mph Rain: 0.06-in |

| FIELD NOTEBOOKS | | | | |
|-----------------------------------|----------------|-----------------------|----------------|--|
| Joe Voss Book 2 | Pages: 157-160 | Tyler Williams Book 3 | Pages: 155-157 | |
| James Schut Book 2 Pages: 111-113 | | | | |

CONSTRUCTION ACTIVITIES

- 1.0 Primary Geomembrane CQA witnessed ESI constructing the primary boot for the Cell 9 lysimeter pipe in the anchor trench of Cell 9. ESI constructed, welded, and spark tested one (1) 8-in pipe boots around the lysimeter riser pipe. CQA verified that the boots were constructed as per the design drawings.
- 2.0 Primary Geocomposite CQA observed ESI deploying seventeen (17) rolls of primary geocomposite on the south slope of Cell 9 west of the center line of Cell 9. CQA witnessed ESI joining the geocomposite together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together.
- 3.0 <u>8 oz. Geotextile</u> CQA observed ESI deploying eleven (11) rolls of 8 oz. geotextile (Type A) over approved primary drainage gravel on the south side of the Cell 10 floor in front of the operations placement. After ESI placed and unrolled the panels by hand, the 8 oz. geotextile was sewn together as per specifications.
- 4.0 Operation Soil CQA observed TWS utilizing the CAT D8 dozer to place a 7-ft high operations haul road north to south along the Cell 9/10 crest. TWS hauled operations soil from the excavation stockpile in two (2) Komatsu payhaulers. The soil was hauled over the north haul road and placed at the end of the north-south Cell 9/10 haul road where the CAT D8 dozer spread the material across the floor.

CQA witnessed TWS utilizing one (1) CAT D6 dozer to spread stockpiled operations soil south, across the Cell 10 floor over the 8 oz. geotextile. CQA also observed TWS utilizing the one (1) CAT D6 dozers to trim the operations soil on the north slope of Cells 9 and 10 to grade.

After the north-south Cell 9/10 haul road was constructed, CQA observed one (1) CAT D8 dozer and two (2) CAT D6 dozers spreading the operations soil from the road across Cells 9 and 10 in a continuous 3-ft thick lift.

5.0 Anchor Trench – CQA observed TWS completing the backfill of the Cell 10 anchor trench on the far east end of the anchor trench. TWS used the Hitachi 200 to place 5-6 lifts of backfill into the anchor trench. Each lift was moisture conditioned and compacted with the CAT 312 excavator with attached hoe-pack.

ENVIROTECH-CQA

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| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-190 |
|----------------|--------------------------------------|---------------|----------------|-----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Friday, October 29, 2010 |
| Contractor(s): | TradeWind Services | 3 | Weather: | Overcast: Hi: 59°F Lo: 42°F |
| 11000 | | | | Wind: 11-mph Rain: 0.16-in |

| FIELD NOTEBOOKS | | | | |
|-----------------------------------|------------|---------------|--------------|--|
| Joe Voss Book 3 | Pages: 1-3 | Jamison Marsh | Pages: 24-26 | |
| James Schut Book 2 Pages: 114-115 | | | | |

| | LABORATORY TE | STING |
|-----------------------|---------------|--|
| 5-18M Operations Soil | OP-56 | Sample Collected USCS: On-going |
| 5-18M Operations Soil | OP-57 | Sample Collected USCS: On-going |
| 5-18M Operations Soil | OP-58 | Sample Collected USCS: On-going |
| 5-18M Operations Soil | OP-59 | Sample Collected USCS: On-going |
| 5-18M Operations Soil | OP-60 | Sample Collected USCS and Proctor on-going |

CONSTRUCTION ACTIVITIES

- 1.0 Primary Geomembrane CQA observed ESI conducting repairs on the primary geomembrane on the south slope of Cell 10.
- 2.0 Primary Geocomposite CQA observed ESI deploying twenty-nine (29) rolls of primary geocomposite on the south slope of Cell 9. CQA witnessed ESI joining the geocomposite together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together.
- 3.0 Operation Soil CQA observed TWS utilizing the CAT D8 dozer placing two (2) 7-ft high operations haul road north to south in Cell 10. TWS hauled operations soil from the excavation stockpile in two (2) Komatsu payhaulers. The soil was hauled over the north haul road and placed at the end of the north-south Cell 10 haul roads where the CAT D8 dozer spread the material across the floor.
 - CQA witnessed TWS utilizing three (3) CAT D6 LGP dozers to spread stockpiled operations soil south, across the Cell 10 floor over the 8 oz. geotextile.
- 4.0 <u>Tank #3</u> CQA performed a post-construction walk-down and acceptance of the Tank #3 installation, including tank construction, concrete foundation, and grouting. However, CQA did not accept the subgrade of the tank foundation, TWS shall correct the subgrade prior to liner installation.
- 5.0 <u>Tank #4</u> CQA performed a preliminary post-construction walk-down and acceptance of the Tank #4 installation. The grouting was not completed, subgrade not acceptable, and two (2) of the anchor bolt assemblies were not attached correctly. CQA shall re-inspect Tank #4 prior to acceptance.

ENVIROTECH-CQA

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| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-191 |
|----------------|--------------------------------------|---------------|----------------|-----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Saturday, October 30, 2010 |
| Contractor(s): | TradeWind Services | 1 | Weather: | Overcast: Hi: 49°F Lo: 43°F |
| | of American | | | Wind: 10-mph Rain: 0.01-in |

| | ··· | ELD NOTEBOOKS |
|-----------------|------------|---------------|
| Joe Voss Book 3 | Pages: 4-5 | |

| | LABORATORY TE | STING |
|-----------------------|---------------|---------------------------|
| 5-18M Operations Soil | OP-56 | USCS: On-going |
| 5-18M Operations Soil | OP-57 | USCS: On-going |
| 5-18M Operations Soil | OP-58 | USCS: On-going |
| 5-18M Operations Soil | OP-59 | USCS: On-going |
| 5-18M Operations Soil | OP-60 | USCS and Proctor on-going |

CONSTRUCTION ACTIVITIES

- 1.0 Site Work CQA observed TWS constructing a ramp into Cell 10 for drainage gravel placement.
- 2.0 Primary Geomembrane CQA observed ESI begin the secondary to primary extrusion weld in the south anchor trench of Cell 9. ESI halted welding due to wet conditions.
 - CQA failed one (1) destruct collected from extrusion welding performed on Friday, October 29th, 2010. CQA shall bracket the failed test and retest the extrusion welds at a later date.
- 3.0 <u>Primary Geocomposite</u> CQA observed ESI deploying three (3) rolls of primary geocomposite on the south slope of Cell 9. CQA witnessed ESI joining the geocomposite together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together.
- 4.0 <u>8 oz. Geotextile</u> CQA observed ESI deploying two (2) rolls of 8 oz. geotextile on the floor of Cell 10 in grid cells K6 to M6. After ESI deployed the panels, CQA observed ESI continuously sewing the geotextile together as per construction specifications.

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| Project ID: | 01-0032 ERDF Cells 9-10 C | onstruction | Report Number: | 5-16-192 |
|----------------|---------------------------|---------------|----------------|---|
| Job Number: | S013213A00 | Staff On-site | Date: | Monday, November 1, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Cloudy with High Winds: Hi: 67°F Lo: 46°F Wind: 33-mph |

| | FIELD | NOTEBOOKS | министикунданы бил развилан имнос этгэх насёд 22,000 бууны энго осын аяван аяван хөөгөөө осын аяван осын аяван |
|--------------------|----------------|-----------------------|--|
| Joe Voss Book 3 | Pages: 6-7 | Tyler Williams Book 4 | Pages: 1-2 |
| James Schut Book 2 | Pages: 116-118 | Luke Hay Book 3 | Pages: 52-53 |

| | CQA HOLD POINTS | |
|-----------------------------|------------------|--------------------|
| Submittal 5-18R-107 Tank #3 | November 1, 2010 | Tank #3 Acceptance |

| LABORATORY TESTING | | | | | |
|-----------------------|-------|---------------------------|--|--|--|
| 5-18M Operations Soil | OP-56 | USCS: On-going | | | |
| 5-18M Operations Soil | OP-57 | USCS: On-going | | | |
| 5-18M Operations Soil | OP-58 | USCS: On-going | | | |
| 5-18M Operations Soil | OP-59 | USCS: On-going | | | |
| 5-18M Operations Soil | OP-60 | USCS and Proctor on-going | | | |

CONSTRUCTION ACTIVITIES

1.0 Primary Geomembrane – CQA observed ESI conducting repairs on the primary geomembrane on the south slope of Cell 10. ESI bracketed the failing destructive test DP-85 on the south slope of Cell 10. Destructive sample DP-85 was removed from the second weld performed on the day, ESI capped the first weld and collected destructive sample DP-85A from the next repair. Sample DP-85A passed contract specifications, and ESI capped the failed repair. After the repairs were completed, CQA observed ESI performing vacuum testing on the remaining extrusion welds.

In addition, CQA observed ESI continuing to weld the primary to the secondary geomembrane in the Cell 9 anchor trench.

- 2.0 Primary Geocomposite CQA observed ESI deploying ten (10) rolls of primary geocomposite on the south slope of Cell 10. CQA witnessed ESI joining the geocomposite together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together and leistering patches over the Cell 7/9 tie-in and butt seams.
- 3.0 Primary Drainage Gravel CQA observed TWS constructing a ramp in the southeast corner of Cell 10 from operations soil. Prior to constructing the ramp, TWS protected the liner termination with scrap geosynthetics. After the ramp was constructed, TWS hauled drainage gravel into Cell 10. TWS constructed a road east to west near the south toe of slope in Cell 10. Gravel was hauled into the Cell in two (2) Komatsu payhaulers and stockpiled at the end of the road with a CAT D6 LGP dozer. The stockpiled gravel was spread across Cell 10 with a CAT 312 excavator. CQA inspector and TWS laborers were present during gravel placement to ensure no wrinkles were trapped or trampoline in the liner were covered with drainage gravel.





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-192 |
|----------------|--------------------------------------|---------------|----------------|---|
| Job Number: | S013213A00 | Staff On-site | Date: | Monday, November 1, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Cloudy with High Winds: Hi: 67°F Lo: 46°F Wind: 33-mph |

4.0 Operation Soil — TWS hauled operations soil from the excavation stockpile in two (2) Komatsu payhaulers. The soil was hauled over the north haul road and placed at the end of the west north-south Cell 10 haul roads where the CAT D8 dozer spread the material across the floor. CQA observed TWS utilizing the CAT D8 dozer and two (2) CAT D6 dozers

to place operations soil in Cell 10. TWS spread the east north-south haul road in a 3-ft lift across the central section of Cell 10, while the CAT D6 dozer was used to extend the west north-south road toward the north slope of Cell 9.

5.0 Tank #3 - After removal of excess gravel from the Tank #3 subgrade, CQA and ESI accepted the subgrade of Tank #3 for geosynthetics placement. CQA then observed ESI installing two (2) rolls of 16 oz. geotextile into

ENVIROTECH – CQA DATE

M1 Page 334 of 376

PAGE 2 OF 2





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-193 |
|----------------|-------------------------|---------------|----------------|---|
| Job Number: | S013213A00 | Staff On-site | Date: | Tuesday, November 2, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Pt. Cloudy: Hi: 69°F Lo: 45°F Wind: 13-mph |

| FIELD NOTEBOOKS | | | | | |
|--------------------|-----------------|-----------------------|--------------|--|--|
| Joe Voss Book 3 | Pages: 8-9 | Tyler Williams Book 4 | Pages: 3-4 | | |
| James Schut Book 2 | -Pages: 119-122 | Luke Hay Book 3 | Pages: 54-55 | | |

| LABORATORY TESTING | | | | | |
|-----------------------|-------|---------------------------|--|--|--|
| 5-18M Operations Soil | OP-56 | USCS: On-going | | | |
| 5-18M Operations Soil | OP-57 | USCS: On-going | | | |
| 5-18M Operations Soil | OP-58 | USCS: On-going | | | |
| 5-18M Operations Soil | OP-59 | USCS: On-going | | | |
| 5-18M Operations Soil | OP-60 | USCS and Proctor on-going | | | |

GENERAL ACTIVITIES

- 1.0 Weekly Progress Meeting The construction subcontractor's weekly progress meeting on Tuesday, November 2nd, 2010 at 10:00 am, in the meeting trailer.
- 2.0 CQA Weekly Progress Meeting CQA attended the CQA subcontractor's weekly progress meeting on Tuesday, November 2nd, 2010 at 10:15 am in the meeting trailer.

CONSTRUCTION ACTIVITIES

1.0 Primary Geomembrane —CQA observed ESI cleaning the primary and secondary geomembrane edges in the anchor trench. After the edges were cleaned, ESI continuously welded the primary to the secondary geomembrane in the anchor trench.

Stratton Survey was on-site to capture the primary geomembrane as-built survey in Cell 10.

- 2.0 Primary Geocomposite CQA observed ESI joining the geocomposite together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together and leistering patches over the butt seams.
- 3.0 Primary Drainage Gravel CQA observed TWS hauling drainage gravel into Cell 10 with two (2) Komatsu payhaulers and stockpiling the gravel on the south haul road. The gravel was pushed with a CAT D6 LGP dozer to the CAT 312 excavator, which completed the south haul road and began spreading gravel across the Cell 10 to the north. CQA inspector and TWS laborers were present during gravel placement to ensure no wrinkles were trapped or trampoline in the liner were covered with drainage gravel.

In addition, the CAT D6 dozer placed the gravel over the primary geocomposite at the toe of the south slope of Cell 9. Stratton Surveying was present to complete the drainage gravel as-built survey in Cell 9.





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-193 |
|----------------|-------------------------|---------------|--|-------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Tuesday, November 2, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Pt. Cloudy: Hi: 69°F Lo: 45°F |
| | | | an American Control of | Wind: 13-mph |

CONSTRUCTION ACTIVITIES

- 4.0 8 oz. Geotextile CQA observed ESI unrolling partially deployed 8 oz. geotextile rolls on the floor of Cell 9 at the toe of the south slope. After the geotextile was unrolled, the panels were sewn together and leistered to the primary geocomposite as required.
- 5.0 Operation Soil After the gravel haul to the floor of Cell 10 was completed, TWS continued hauling operations soil from the excavation stockpile in two (2) Komatsu payhaulers. The soil was hauled over the north haul road and placed at the end of the west north-south Cell 10 haul road where the CAT D8 dozer spread the material across the floor. CQA observed TWS utilizing the CAT D8 dozer and one (1) CAT D6 dozers to spread operations soil in Cell 10.

Stratton Survey was on-site to capture the operations as-built survey.

- 6.0 Crest Pad 9 CQA witnessed BMWC conducting hydraulic pressure testing on the PVC piping in the Cell 9 Crest Pad building. The piping held 74 psi of pressure for one hour with a drop of one (1) psi. CQA certifies that the piping system met the hydraulic pressure testing specifications.
- 7.0 Tank #3 CQA observed ESI cutting and welding eight (8) panels of secondary LLDPE geomembrane in Tank 3. After the panels were welded together, ESI hung all eight (8) panels on the tank wall over the anchor bolts.

ENVIROTECH-CQA DATE

PAGE 2 OF 2





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-194 |
|----------------|--------------------------------------|---------------|----------------|-----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Wednesday, November 3, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Cloudy: Hi: 63°F Lo: 45°F |
| | фотоголого | | | Wind: 16-mph |

| FIELD NOTEBOOKS | | | | |
|--------------------|----------------|-----------------------|--------------|--|
| Joe Voss Book 3 | Pages: 10-12 | Tyler Williams Book 4 | Pages: 5-6 | |
| James Schut Book 2 | Pages: 123-124 | Luke Hay Book 3 | Pages: 56-57 | |

| LABORATORY TESTING | | | | | |
|-----------------------|-------|---------------------------|--|--|--|
| 5-18M Operations Soil | OP-56 | USCS: Passed | | | |
| 5-18M Operations Soil | OP-57 | USCS: Passed | | | |
| 5-18M Operations Soil | OP-58 | USCS: Passed | | | |
| 5-18M Operations Soil | OP-59 | USCS: Passed | | | |
| 5-18M Operations Soil | OP-60 | USCS and Proctor on-going | | | |

GENERAL ACTIVITIES

1.0 Trailer Move - COA began packing up for the trailer move tomorrow, Thursday, November 4th, 2010.

CONSTRUCTION ACTIVITIES

- 1.0 Primary Geomembrane CQA observed ESI performing vacuum testing on the south slope of Cell 10. After vacuum testing was completed, ESI deployed primary geocomposite.
- 2.0 Primary Geocomposite CQA observed ESI deploying nineteen (19) rolls of primary geocomposite on the south slope of Cell 10. CQA witnessed ESI joining the geocomposite together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together.
- 3.0 Primary Drainage Gravel CQA observed TWS hauling drainage gravel into Cell 10 with two (2) International payhaulers and stockpiling the gravel on the south haul road. The gravel was pushed with a CAT D6 LGP dozer to the CAT 312 excavator, which spread the gravel across the Cell 10 to the north. A second CAT D6 LGP dozer was used to clip the gravel to grade. A CQA inspector and TWS laborers were present during gravel placement to ensure no wrinkles were trapped or trampoline in the liner were covered with drainage gravel.
- 4.0 Operation Soil After the gravel haul to the floor of Cell 10 was completed, TWS continued hauling operations soil from the excavation stockpile in two (2) Komatsu payhaulers. The soil was hauled over the north-south haul road and placed at the toe of south slope in Cell 9. CQA observed TWS utilizing the CAT D8 dozer to spread operations on the north-south haul road and one (1) CAT D6 dozers to spread operations on the floor of Cells 9 and 10.
- 5.0 Tank #3 CQA observed ESI cutting and welding eight (8) panels of secondary LLDPE geomembrane in Tank 3. ESI cut and welded one (1) panel to the tank wall and seven (7) panels on the floor of the tank. After ESI completed performing pressure testing on the secondary geomembrane, ESI began installing the baton strip.





| Project ID: | 01-0032 ERDF Cells 9-1 | 0 Construction | Report Number: | 5-16-195 |
|----------------|------------------------|----------------|----------------|-----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Thursday, November 4, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Overcast: Hi: 60°F Lo: 37°F |
| CC 1000 | | | autoroo de | Wind: 10-mph |

| FIELD NOTEBOOKS | | | | | |
|--------------------|----------------|-----------------------|-------------|--|--|
| Joe Voss Book 3 | Pages: 13-16 | Tyler Williams Book 4 | Pages: 7-10 | | |
| James Schut Book 2 | Pages: 125-128 | Luke Hay Book 3 | Page: 58 | | |

| | LABORATORY TESTING | |
|-----------------------|--------------------|---------------------------|
| 5-18M Operations Soil | OP-60 | USCS and Proctor on-going |

GENERAL ACTIVITIES

1.0 <u>Trailer Move</u> – The CQA office was moved to a new location northeast of the current office. CQA setup a temporary office in the meeting trailer.

CONSTRUCTION ACTIVITIES

- 1.0 Primary Geocomposite On the south slope of Cell 10, CQA witnessed ESI joining the geocomposite together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together and leistering patches over the end seams.
- 2.0 Primary Drainage Gravel CQA observed TWS utilizing the Hitachi 200 excavator grading the drainage gravel near the toe of the slope in Cell 9. After the gravel had been graded, the Hitachi 200 excavated the primary leachate collection pipe trench in Cell 9. The trench stretched from the day-lighted 12-in leachate collection pipe near the center of Cell 10 to the south toe of the Cell 10 slope. During excavation, TWS tore the geocomposite in three (3) locations. Each tear was documented, inspected, and no damage to the underlying primary geomembrane was discovered. CQA observed ESI removing, replacing, and repairing the geocomposite in the damaged areas.
- 3.0 Primary Leachate Collection CQA observed TWS placing the 12-in leachate collection pipe and clean out pipe down the south slope. The pipe was anchored by the CAT 330 at the top shoulder and pulled down the slope with the CAT 312 excavator aided by laborers and spotters. The pipe was placed into the leachate collection pipe trench in the floor of Cell 10 and attached to the existing leachate collection pipe. CQA observed BMWC utilizing a fusion coupler to join the existing pipe to the placed 12-in HDPE leachate collection pipe. After the pipe was in-place, TWS utilized the CAT 312 excavator aided by the TWS surveyor to placed and grade drainage gravel over the leachate collection pipe as per design drawings.
- 4.0 Operation Soil CQA observed TWS continued hauling operations soil from the excavation stockpile in two (2) Komatsu payhaulers. The soil was hauled over the north-south haul road and placed at the toe of south slope in Cell 9. CQA observed TWS utilizing the CAT D8 dozer to spread operations to the south slope, where one (1) CAT D6 dozer spread the operations up the south slope of Cell 9.





| Project ID: | 01-0032 ERDF Cells 9-10 |) Construction | Report Number: | 5-16-195 |
|----------------|-------------------------|----------------|----------------|-----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Thursday, November 4, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Overcast: Hi: 60°F Lo: 37°F |
| | ana dia manana | | | Wind: 10-mph |

CONSTRUCTION ACTIVITIES

- 5.0 Anchor Trench TWS began placing and compacting fill in the south anchor trench on the west end of Cell 9. Fill was placed with a CAT 330 excavator and compacted with a hoe-pack attached to a CAT 312 excavator. CQA observed compaction of the backfill and noted that the material was going in dry. CQA had TWS add water to the backfill and recompact. CQA observed that all placed lifts were placed per contract specifications.
- 6.0 Tank #3 CQA observed ESI leistering the wall panels to the floor in Tank #3. After wall panels were leistered to the floor, CQA observed ESI extrusion welding repairs between the wall panels and the floor panels. In addition, ESI also performed repairs on Tank #3 as indicated by CQA. CQA also observed ESI continuing to install the baton strip in Tank #3

ENVIROTECH-CQA

11/11/10

M1 Page 339 of 376

PAGE 2 OF 2





| Project ID: | 01-0032 ERDF Cells 9-1 | Construction | Report Number: | 5-16-196 |
|----------------|------------------------|---------------|----------------|---|
| Job Number: | S013213A00 | Staff On-site | Date: | Friday, November 5, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Early Morning Fog - Pt. Cloudy Hi: 52°F Lo: 35°F Wind: 7-mph |

| FIELD NOTEBOOKS | | | | |
|--------------------|----------------|-----------------------|--------------|--|
| Joe Voss Book 3 | Pages: 17-18 | Tyler Williams Book 4 | Pages: 11-12 | |
| James Schut Book 2 | Pages: 129-130 | Luke Hay Book 3 | Page: 59 | |

| CQA HOLD POINTS | | | | |
|-----------------------------|------------------|--------------------|--|--|
| Submittal 5-18R-108 Tank #4 | November 5, 2010 | Tank #4 Acceptance | | |

| | LABORATORY TESTING | |
|-----------------------|--------------------|---------------------------|
| 5-18M Operations Soil | OP-60 | USCS and Proctor on-going |

GENERAL ACTIVITIES

1.0 Trailer Move - At TWS request, CQA moved offices to the WCH trailer due to size constraints in the meeting trailer.

CONSTRUCTION ACTIVITIES

- 1.0 <u>Primary Geomembrane</u> CQA observed ESI performing vacuum testing on the extrusion welds on the south slope of Cell 10.
- 2.0 Primary Geocomposite On the south slope of Cell 10, CQA witnessed ESI joining the geocomposite together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together and leistering patches over the end seams.
- 3.0 Primary Drainage Gravel CQA observed TWS utilizing the Hitachi 200 excavator grading the drainage gravel near the over the primary leachate collection pipe and toe of the slope in Cells 9 and 10. In addition, TWS used a CAT D6 GPS LGP dozer to grade the primary drainage gravel in Cell 10. After the gravel had been graded. Stratton Surveying was on-site to as-built the drainage gravel and verify gravel thickness.
- 4.0 <u>8 oz. Geotextile</u> CQA observed ESI deploying six (6) rolls of 8 oz. geotextile over the primary drainage gravel in Cell10. After the geotextile was in-place, ESI sewed the ends of the 8 oz. geotextile together and to the existing 8 oz. geotextile in Cell 10.
- 5.0 Primary Leachate Collection CQA observed the CAT 312 excavator and TWS surveyor completing the placement and grading of the primary drainage gravel over the primary leachate collection pipe. Stratton Surveying was on-site to capture the as-built of the primary leachate collection pipe in Cell 10.





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-196 |
|----------------|--------------------------------------|---------------|----------------|---|
| Job Number: | S013213A00 | Staff On-site | Date: | Friday, November 5, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Early Morning Fog - Pt. Cloudy Hi: 52°F Lo: 35°F Wind: 7-mph |

CONSTRUCTION ACTIVITIES

- 6.0 Operation Soil CQA observed TWS continuing to haul operations soil from the excavation stockpile in two (2) Komatsu payhaulers. The soil was hauled over the north-south haul road and placed at the toe of south slope in Cell 9. CQA observed TWS utilizing the CAT D8 dozer to spread operations to the south slope, where two (2) CAT D6 dozer spread the operations up the south slope of Cell 9. In addition, the CAT 312 excavator placed the operations soil stockpiled at the 8/9 tie-in onto the primary geocomposite on the Cell 9 slope.
 - In addition, CQA observed American Fence boring and placing fence posts in the Cell 9 termination berm on the north slope and floor of Cell 9.
- 7.0 Tank #3 CQA observed extrusion welding repairs between the wall panels and the floor panels. CQA also collected and broke all destructive samples for Tank #3, all passed. Stratton Surveying was on-site to capture the as-built of the Tank #3 secondary geomembrane.
- 8.0 Tank #4 CQA observed ESI removing gravel from the subgrade of Tank #4. After the gravel was removed, ESI and CQA approved Tank #4 for geosynthetics placement. CQA witnessed ESI deploying two (2) rolls of secondary 16 oz. geotextile along the wall and floor of Tank #4.

ENVIROTECH - CQA DATE

PAGE 2 OF 2





| Project ID: | 01-0032 ERDF Cells 9-1 |) Construction | Report Number: | 5-16-197 |
|----------------|------------------------|----------------|----------------|--|
| Job Number: | S013213A00 | Staff On-site | Date: | Saturday, November 6, 2010 |
| Contractor(s): | TradeWind Services | 2 | Weather: | Pt. Cloudy: Hi: 55°F Lo: 39°F Wind: 8-mph |

| | FIELD N | OTEBOOKS | |
|--------------------|----------------|-----------------------|--------------|
| James Schut Book 2 | Pages: 131-132 | Tyler Williams Book 4 | Pages: 13-14 |

| LABORATORY TESTING | | | | |
|-----------------------|-------|---------------------------|--|--|
| 5-18M Operations Soil | OP-60 | USCS and Proctor on-going | | |

CONSTRUCTION ACTIVITIES

- 1.0 Primary Geocomposite –ESI deployed four (4) rolls of primary geocomposite on the south slope of Cell 10. ESI joined the geocomposite together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together and leistering patches over the end seams.
- 2.0 Primary Drainage Gravel CQA observed TWS removing the south primary gravel haul road in the southeast corner of Cell 10. The drainage gravel road was removed to allow ESI to complete primary geomembrane repairs and placement of primary geocomposite on the east termination of Cell 10.
- 3.0 <u>8 oz. Geotextile</u> CQA observed ESI deploying six (6) rolls of 8 oz. geotextile over the primary drainage gravel in Cell 10. After the geotextile was in-place, ESI sewed the ends of the 8 oz. geotextile together and to the existing 8 oz. geotextile in Cell 10.
- 4.0 Tank #3 CQA observed ESI extrusion welding repair locations in Tank #3. After the repairs were completed, CQA witnessed ESI performing non-destructive testing of the repairs.
- 5.0 <u>Tank #4</u> CQA observed ESI deploying six (3) panels of secondary geomembrane on the walls of Tank #4. The panels were welded on the floor of the tank and then hung then on the anchor bolts.

ENVIROTECH-CQA DATE

M1 Page 342 of 376





| Project ID: | 01-0032 ERDF Cells 9-10 | O Construction | Report Number: | 5-16-198 |
|----------------|-------------------------|----------------|----------------|--------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Monday, November 8, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Cloudy Hi: 57°F Lo: 33°F |
| | manovage | | | Wind: 19-mph |

| FIELD NOTEBOOKS | | | | | |
|--------------------|----------------|-----------------------|--------------|--|--|
| Joe Voss Book 3 | Pages: 19-20 | Tyler Williams Book 4 | Pages: 15-17 | | |
| James Schut Book 2 | Pages: 133-135 | Luke Hay Book 3 | Page: 60-62 | | |

| | LABORATORY TESTING | |
|-----------------------|--------------------|---------------------------|
| 5-18M Operations Soil | OP-60 | USCS and Proctor on-going |

GENERAL ACTIVITIES

- 1.0 Trailer Move CQA continued working out of the WCH trailer.
- 2.0 Rain Event Rain water collected on the floor of Tank #3 over the weekend. ESI spent a significant part of the day removing the water with sump pumps and pushing water toward the floor drain.
- 3.0 Cell 10 Primary Drainage Gravel A trampoline has developed at the toe of the south slope of Cell 10. CQA has placed a hold for drainage gravel placement at the toe of the south slope of Cell 10. CQA shall continue to monitor the trampoline effect.
- 4.0 <u>Tank #3 Leak</u> A leak was noticed in the sight glass in the leak detection manhole of Tank #3, which subsequently filled with storm water. The sight glass was not tested during the hydraulic test, but added later by BMWC. BMWC tightened the gasket attaching the sight glass to the pipe, stopping the leak.

CONSTRUCTION ACTIVITIES

- 1.0 <u>Primary Geomembrane</u> CQA observed ESI performing vacuum testing on the extrusion welds on the south slope of Cell 10.
- 2.0 Primary Geocomposite CQA observed ESI deploying twenty-one (21) rolls of primary geocomposite on the south slope of Cell 10. CQA witnessed ESI joining the geocomposite together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together.
- 3.0 Operation Soil CQA observed TWS continuing to haul operations soil from the excavation stockpile in two (2) Komatsu payhaulers. The soil was hauled over the north-south haul road and placed at the toe of south slope in Cell 9. CQA observed TWS utilizing the CAT D8 dozer to spread operations to the south slope, where two (2) CAT D6 dozer spread the operations up the south slope of Cell 9.
- 4.0 Anchor Trench TWS continued placing and compacting fill in the south anchor trench of Cell 9. Fill was placed with a CAT 330 excavator and compacted with a hoe-pack attached to a CAT 312 excavator. CQA observed compaction of the backfill and noted that the material was going in dry. CQA had TWS add water to the backfill and recompact. CQA observed that all placed lifts were placed per contract specifications.





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-198 |
|----------------|--------------------------------------|---------------|----------------|--|
| Job Number: | S013213A00 | Staff On-site | Date: | Monday, November 8, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Cloudy Hi: 57°F Lo: 33°F Wind: 19-mph |

CONSTRUCTION ACTIVITIES

- 5.0 <u>Tank #3</u> After ESI removed the storm water from Tank #3, CQA observed ESI extrusion welding repairs between the wall panels and the floor panels. After repairs were completed, ESI replaced two baton strips that were removed to conduct the repairs.
- 6.0 Tank #4 -CQA witnessed ESI deploying eight (8) panels of secondary geomembrane on the wall and floor of Tank #4. Panels S-7 through S-14 were double wedge welded together, and the seams were pressure tested. After the fusion welding was completed, CQA observed ESI leistering patches in Tank #4 at the panel intersections and other repair locations. In addition, ESI began placing baton strips around the rim of Tank #4.

ENVIROTECH-CQA DAT

M1 Page 344 of 376

PAGE 2 OF 2





| Project 1D: | 01-0032 ERDF Cells 9-1 | O Construction | Report Number: | 5-16-199 |
|----------------|------------------------|----------------|----------------|--|
| Job Number: | S013213A00 | Staff On-site | Date: | Tuesday, November 9, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Overcast with Showers:0.12-in Rain Hi: 44°F Lo: 26°F Wind: 20-mph |

| FIELD NOTEBOOKS | | | | | |
|--------------------|----------------|-----------------------|--------------|--|--|
| Joe Voss Book 3 | Pages: 21-23 | Tyler Williams Book 4 | Pages: 18-20 | | |
| James Schut Book 2 | Pages: 136-137 | Luke Hay Book 3 | Page: 63-64 | | |

| | LABORATORY TES | |
|-----------------------|----------------|---------------------------|
| 5-18M Operations Soil | OP-60 | USCS and Proctor on-going |

GENERAL ACTIVITIES

- 1.0 <u>Trailer Move</u> CQA removed equipment from the WCH trailer and relocated to the Envirotech office in Pit 31; however, CQA has not received and occupancy permit to move into the office trailer.
- 2.0 Cell 10 Primary Gravel -CQA is continuing to monitor the trampoline effect at the south toe of the Cell 10 slope.

CONSTRUCTION ACTIVITIES

- 1.0 Primary Geomembrane CQA observed ESI performing vacuum testing on the extrusion welds on the south slope of Cell 10. Stratton Surveying was on-site to survey the repair locations on the Cell 10 primary geomembrane.
- 2.0 Primary Geocomposite CQA observed ESI deploying one (1) roll of primary geocomposite on the south slope of Cell 10. CQA witnessed ESI joining the geocomposite together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together and leistering patches over the end seams. In addition, CQA observed ESI overlapping and leistering the primary geotextile on the floor of Cell 10 and the primary geocomposite on the south slope of Cell 10.
- 3.0 Operation Soil CQA observed TWS continuing to haul operations soil from the excavation stockpile in two (2) Komatsu payhaulers. The soil was hauled over the north-south haul road and placed at the toe of south slope in Cell 9. CQA observed TWS utilizing the CAT D8 dozer to spread operations to the south slope, where two (2) CAT D6 dozer spread the operations up the south slope of Cell 9.
 - In addition, CQA observed American fence utilizing a pump truck to place concrete anchors for the termination fence on the north slope and floor of Cell 9.
- 4.0 Anchor Trench TWS continued placing and compacting fill in the south anchor trench of Cell 10. Fill was placed with a CAT 330 excavator and compacted with a hoe-pack attached to a CAT 312 excavator. CQA observed that all placed lifts were placed per contract specifications.
- 5.0 Tank #3 CQA observed ESI performing vacuum testing on the extrusion repairs in Tank #3.
- 6.0 Tank #4 CQA witnessed ESI performing extrusion repairs Tank #4 as required by CQA. Afternoon showers halted all welding activities in Tank#4. In addition, CQA observed ESI installing baton strips in Tank #4 after repairs were completed on the pertinent secondary geomembrane.

ENVIROTECH - CQA

11/16/10 DATE

PAGE LOF 1





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-200 |
|----------------|--------------------------------------|---------------|----------------|------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Wednesday, November 10, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Overcast: Hi: 51°F Lo: 30°F |
| | | | an a saaaa | Wind: 11-mph |

| FIELD NOTEBOOKS | | | | | |
|--------------------|----------------|-----------------------|--------------|--|--|
| Joe Voss Book 3 | Pages: 24-25 | Tyler Williams Book 4 | Pages: 21-22 | | |
| James Schut Book 2 | Pages: 138-139 | Luke Hay Book 3 | Page: 65 | | |

| | LABORATORY TE | STING |
|-----------------------|---------------|---------------------------------|
| 5-18M Operations Soil | OP-60 | USCS and Proctor on-going |
| 5-18M Operations Soil | OP-61 | Sample Collected: USCS on-going |
| 5-18M Operations Soil | OP-62 | Sample Collected: USCS on-going |
| 5-18M Operations Soil | OP-63 | Sample Collected: USCS on-going |
| 5-18M Operations Soil | OP-64 | Sample Collected: USCS on-going |

GENERAL ACTIVITIES

- 1.0 Trailer Move CQA received occupancy permit to complete move to trailer in Pit 30.
- 2.0 Cell 10 Primary Gravel CQA is continuing to monitor the trampoline effect at the south toe of the Cell 10 slope.
- 3.0 Storm water Storm water has collected on the floor of Tanks #3 and Tanks #4. ESI pushed the storm water to the floor drains, where it was removed from the Tanks.

CONSTRUCTION ACTIVITIES

- 1.0 Primary Geomembrane CQA observed ESI extrusion welding the rain flap detail on the south slope of Cell 10. ESI cut the primary geomembrane, and welded the flap to the secondary geomembrane on the south slope of Cell 10.
- 2.0 Primary Geocomposite CQA observed ESI sewing the flaps of the geocomposite together and leistering patches over the end seams.
- 3.0 Operation Soil CQA observed TWS continuing to haul operations soil from the excavation stockpile in two (2) Komatsu payhaulers. The soil was hauled over the north-south haul road and placed at the toe of south slope in Cell 9. CQA observed TWS utilizing the CAT D8 dozer to spread operations to the south slope, where two (2) CAT D6 dozer spread the operations up the south slope of Cell 9.

In addition, TWS utilized the CAT 312 excavator to construct an operations ramp at the Cell 10 south toe of slope. Operations soil was placed by the excavator over approved 8 oz. geotextile.

- 4.0 Tank #3 CQA observed ESI installing the baton strips around the rim of Tank #3.
- 5.0 Tank #4 CQA witnessed ESI performing extrusion repairs Tank #4 as required by CQA. Storm water and low temperatures delayed start of the tank repairs. ESI completed approximately half the extrusion repairs in Tank #4.

ENVIROTECH - CQA

11/16/10 DATE

M1 Page 346 of 376





| Project ID: | 01-0032 ERDF Cells 9-10 |) Construction | Report Number: | 5-16-201 |
|----------------|-------------------------|----------------|----------------|-------------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Thursday, November 11, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Overcast and Fog: Hi: 40°F Lo: 27°F |
| | decision | | | Wind: 12-mph |

| FIELD NOTEBOOKS | | | | | | |
|--------------------|----------------|-----------------------|--------------|--|--|--|
| Joe Voss Book 3 | Pages: 26-27 | Tyler Williams Book 4 | Pages: 23-26 | | | |
| James Schut Book 2 | Pages: 140-142 | | | | | |

| | LABORATORY TE | STING |
|-----------------------|---------------|---------------------------|
| 5-18M Operations Soil | OP-60 | USCS and Proctor on-going |
| 5-18M Operations Soil | OP-61 | USCS on-going |
| 5-18M Operations Soil | OP-62 | USCS on-going |
| 5-18M Operations Soil | OP-63 | USCS on-going |
| 5-18M Operations Soil | OP-64 | USCS on-going |

GENERAL ACTIVITIES

- 1.0 Cell 10 Primary Gravel CQA is continuing to monitor the trampoline effect at the south toe of the Cell 10 slope.
- 2.0 Safety Celebration Non-critical work on-site was halted at 13:45 Thursday, November 11 2010 for a Safety Celebration at the Toyota Center. All liner activities were critical work, and CQA did not attend the safety celebration.

CONSTRUCTION ACTIVITIES

- 1.0 Primary Geomembrane CQA observed ESI vacuum testing the secondary to primary weld on the south slope of Cell 10. CQA collected two destructive samples, DP-87 and DP-88. Sample DP-87 failed to meet contract specifications. CQA bracketed the test from the first weld of the day to DP-87A. CQA verified that sample DP-87A met contract specifications. Stratton Surveying was on-site to capture the primary liner seam survey
- 2.0 <u>Primary Drainage Gravel</u> Stratton Survey was on-site to capture the as-built of the Cell 10 primary drainage gravel at the toe of the south slope.
- 3.0 Operation Soil CQA observed TWS continuing to haul operations soil from the excavation stockpile in two (2) Komatsu payhaulers. The soil was hauled over the south toe of slope haul road and spread using the CAT D8 dozer. Two (2) CAT D6 dozer spread the operations up the south slope and on the floor of Cells 9 and 10.
- 4.0 Tank #3 ESI placed a 4-in transfer hose into Tank #3 protected by a 100 mill rub sheet placed under the inlet. TWS then proceeded to fill Tank #3. Tank #3 filling shall be completed on Friday. November 12, 2010.
- 5.0 Tank #4 CQA witnessed ESI performing extrusion repairs Tank #4 as required by CQA.

ENVIROTECH - CQA

18/16/10 DATE

M1 Page 347 of 376





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-202 |
|----------------|--------------------------------------|---------------|----------------|--|
| Job Number: | S013213A00 | Staff On-site | Date: | Friday, November 12, 2010 |
| Contractor(s): | TradeWind Services | 3 | Weather: | Overcast and Fog: Hi: 53°F Lo: 24°F Wind: 11-mph |

| FIELD NOTEBOOKS | | | | | |
|--------------------|----------------|-----------------------|--------------|--|--|
| Joe Voss Book 3 | Pages: 28-29 | Tyler Williams Book 4 | Pages: 27-28 | | |
| James Schut Book 2 | Pages: 143-145 | | | | |

| | LABORATORY TES | STING |
|-----------------------|----------------|---------------------------|
| 5-18M Operations Soil | OP-60 | USCS and Proctor on-going |
| 5-18M Operations Soil | OP-61 | USCS on-going |
| 5-18M Operations Soil | OP-62 | USCS on-going |
| 5-18M Operations Soil | OP-63 | USCS on-going |
| 5-18M Operations Soil | OP-64 | USCS on-going |
| 5-18M Operations Soil | OP-65 | Sample Collected: |
| • | | USCS and Proctor on-going |

GENERAL ACTIVITIES

1.0 <u>Cell 10 Primary Gravel</u> – CQA investigated the trampoline at the toe of the south slope following the completed primary geomembrane repairs. CQA verified that the primary geomembrane had been cut and repaired (PR-367) to completely remove any trampoline effect.

CONSTRUCTION ACTIVITIES

- 1.0 Primary Geomembrane CQA observed ESI completing the primary to primary geomembrane weld of Cell 10 termination on the south slope. In addition, ESI is completing the last of the repairs on the south slope of Cell 10, including a cap on the south toe that relieved the trampoline effect at the toe of slope.
 - After ESI completed vacuum testing the primary to primary geomembrane weld on the south slope of Cell 10, CQA observed ESI welding the rain flap to the primary geomembrane. The rain flap was continuously extrusion welded to the primary geomembrane for the length of the slope and 5-ft onto the Cell 10 floor.
- 2.0 Primary Geocomposite CQA observed ESI deploying two (2) rolls of primary geocomposite on the Cell 10 termination/tie-in. CQA witnessed ESI joining the geocomposite together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together and leistering patches over the end-to-end seams.
- 3.0 Primary Geotextile CQA observed ESI deploying one (1) roll of 16 oz. geotextile over the end termination of Cell 10 at the south east toe of slope. The geotextile was sewn to the adjoining geotextile and leistered to the primary geocomposite on the Cell 10 slope termination.





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-202 |
|----------------|-------------------------|---------------|----------------|--|
| Job Number: | S013213A00 | Staff On-site | Date: | Friday, November 12, 2010 |
| Contractor(s): | TradeWind Services | 3 | Weather: | Overcast and Fog; Hi: 53°F Lo: 24°F Wind: 11-mph |

CONSTRUCTION ACTIVITIES

- 4.0 Operation Soil CQA observed TWS placing and grading operations soil in Cells 9 and 10. CQA observed TWS utilizing two (2) CAT D6 LGP dozers and one (1) CAT D8 dozer to spread soil on the floor of Cell 10 to grade. A third D6 LGP GPS dozer was used to grade the south slope of Cell 10 and the anchor trench berm on the south slope.
- 5.0 Tank #3 TWS completed filling Tank #3 with water.
- 6.0 Tank #4 CQA witnessed ESI performing extrusion weld repairs and panel intersection caps in Tank #4. After the repairs were completed, CQA witnessed ESI vacuum and spark testing the extrusion welds in Tank #4.

ENVIROTECH-CQA

DATE

TE

M1 Page 349 of 376

PAGE 2 OF 2





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-203 |
|----------------|-------------------------|---------------|----------------|---|
| Job Number: | S013213A00 | Staff On-site | Date: | Monday, November 15, 2010 |
| Contractor(s): | TradeWind Services | 3 | Weather: | Cloudy and High Winds Hi: 61°F Lo: 49°F Wind: 48-mph |

| FIELD NOTEBOOKS | | | | |
|--------------------|--------------|-----------------------|--------------|--|
| Joe Voss Book 3 | Pages: 30-31 | Tyler Williams Book 4 | Pages: 29-30 | |
| James Schut Book 3 | Pages: 1-3 | | | |

| | LABORATORY TE | STING |
|-----------------------|---------------|---------------------------|
| 5-18M Operations Soil | OP-60 | USCS and Proctor on-going |
| 5-18M Operations Soil | OP-61 | USCS on-going |
| 5-18M Operations Soil | OP-62 | USCS on-going |
| 5-18M Operations Soil | OP-63 | USCS on-going |
| 5-18M Operations Soil | OP-64 | USCS on-going |
| 5-18M Operations Soil | OP-65 | USCS and Proctor on-going |

GENERAL ACTIVITIES

1.0 Tank #3 - The rubsheet placed under pump hose in tank 3 floated away, exposing the 40-mil geomembrane to the fill pipe and metal couplings. CQA will investigate following water removal from Tank #3.

CONSTRUCTION ACTIVITIES

- 1.0 Primary Geomembrane CQA observed ESI vacuum testing the rain flap weld on the south slope of Cell 10. All geomembrane installation activities are completed in Cell 10.
- 2.0 Operation Soil TWS continuing to haul operations soil from the excavation stockpile in two (2) Komatsu payhaulers. The soil was hauled over the south toe of slope haul road and spread using the CAT D8 dozer. CQA observed TWS placing and grading operations soil in Cell 10. CQA observed TWS utilizing two (2) CAT D6 LGP dozers to spread operations soil up the southwest slope of Cell 10. A third CAT D6 LGP GPS dozer was used to grade the south slope of Cell 10, south embankment anchor trench berm, and the Cell 9/10 termination berm on the south slope and south half of the cell floor.
- 3.0 Tank #4 CQA witnessed ESI completing vacuum and spark testing on the repairs in Tank #4. After the repairs were completed, TWS transferred 18-in of water from Tank #3 to Tank #4.

M1 Page 350 of 376





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-204 |
|----------------|--------------------------------------|---------------|----------------|---|
| Job Number: | S013213A00 | Staff On-site | Date: | Tuesday, November 16, 2010 |
| Contractor(s): | TradeWind Services | 3 | Weather: | Cloudy: Hi: 62°F Lo: 43°F Wind: 50-mph |

| FIELD NOTEBOOKS | | | | |
|--------------------|--------------|-----------------------|--------------|--|
| Joe Voss Book 3 | Pages: 32-33 | Tyler Williams Book 4 | Pages: 31-33 | |
| James Schut Book 3 | Pages: 4-5 | | | |

| | LABORATORY TE | STING |
|-----------------------|---------------|---------------------------|
| 5-18M Operations Soil | OP-60 | USCS and Proctor on-going |
| 5-18M Operations Soil | OP-61 | USCS on-going |
| 5-18M Operations Soil | OP-62 | USCS on-going |
| 5-18M Operations Soil | OP-63 | USCS on-going |
| 5-18M Operations Soil | OP-64 | USCS on-going |
| 5-18M Operations Soil | OP-65 | USCS and Proctor on-going |

GENERAL ACTIVITIES

- 1.0 Weekly Progress Meeting The construction subcontractor's weekly progress meeting on Tuesday, November 16th, 2010 at 10:00 am. in the MO-607 Conference Room.
- 2.0 <u>CQA Weekly Progress Meeting</u> CQA attended the CQA subcontractor's weekly progress meeting on Tuesday. November 16th, 2010 at 10:30 am in the MO-607 Conference Room.
- 3.0 Tank #3 The rub sheet placed under the water fill pipe in Tank 3 floated away, exposing the 40-mil geomembrane to the fill pipe and metal couplings. The end of the hose was vigorously moving during the fill/empting process. CQA will investigate the liner following water removal from Tank #3.
- 4.0 Weather High winds swept the construction area Monday night, but rapidly fell Tuesday morning.

CONSTRUCTION ACTIVITIES

- 1.0 <u>Drainage Gravel</u> CQA observed TWS utilizing a CAT 312 excavator to place the last of the primary drainage gravel to grade at the southeast toe of slope and around the Cell 10 clean-out pipe.
- 2.0 8 oz. Geotextile After the drainage gravel was graded, CQA observed ESI placing 8 oz. geotextile over the primary drainage gravel. The geotextile was sewn to the surrounding geotextile and leistered to the primary geocomposite on the south slope of Cell 10.
- 3.0 <u>Cell 10 Leachate Collection Pipe</u> CQA observed TWS straightening the leachate collection clean-out pipe to the TWS survey marks with the CAT 312 excavator.





| Project ID: | 01-0032 ERDF Cells 9-1 | O Construction | Report Number: | 5-16-204 |
|----------------|------------------------|----------------|----------------|---|
| Job Number: | S013213A00 | Staff On-site | Date: | Tuesday, November 16, 2010 |
| Contractor(s): | TradeWind Services | 3 | Weather: | Cloudy: Hi: 62°F Lo: 43°F Wind: 50-mph |

CONSTRUCTION ACTIVITIES

- 4.0 Operation Soil TWS continuing to haul operations soil from the excavation stockpile in two (2) Komatsu payhaulers. The soil was hauled over the south toe of slope haul road and spread using the CAT D8 dozer. CQA observed TWS placing and grading operations soil in Cell 10 with the CAT D8 dozer and one (1) CAT D6 LGP GPS dozer.
 - CQA also observed TWS utilizing the CAT 330 excavator to remove the north haul road ramp. The excavated soil was stockpiled in Cell 10, where two (2) CAT D6 LGP dozers to spread operations soil on the north side of the Cell 10 floor and up the north slope. In addition, TWS began placing and grading the Cell 10 termination berm on the north slope.
- 5.0 Tank #3 CQA observed Leak Location Services (LLS) performing the electronic leak detection survey on the side walls of Tank #3. LLS had one (1) positive leak indication near the toe of the side wall. LLS will verify this location when the floor of the tank is surveyed.
- 6.0 Tank #4 CQA observed LLS performing the electronic leak detection survey on Tank #4 floor. Leak Detection Services discovered and marked three (3) holes located on the south side of Tank #4 in the 40-mil geomembrane.
 - After TWS transferred the 18-in of water from Tank #4 to Tank #3, ESI repaired and non-destructively tested all three locations. Following the completed repairs, TWS began transferring water from Tank #3 to Tank #4; TWS plans on continuously transferring water until tomorrow morning.

ENVIROTECH-CQA DATE





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-205 |
|----------------|---|---------------|----------------|------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Wednesday, November 17, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Cloudy: Hi: 56°F Lo: 39°F |
| | de estados de la constanta de | | | Wind: 39-mph Rain: 0.02-in |

| FIELD NOTEBOOKS | | | | | |
|--------------------|--------------|-----------------------|--------------|--|--|
| Joe Voss Book 3 | Pages: 34-35 | Tyler Williams Book 4 | Pages: 34-36 | | |
| James Schut Book 3 | Pages: 6-9 | | | | |

| | LABORATORY TE | STING |
|-----------------------|---------------|---------------------------|
| 5-18M Operations Soil | OP-60 | USCS and Proctor on-going |
| 5-18M Operations Soil | OP-61 | USCS on-going |
| 5-18M Operations Soil | OP-62 | USCS on-going |
| 5-18M Operations Soil | OP-63 | USCS on-going |
| 5-18M Operations Soil | OP-64 | USCS on-going |
| 5-18M Operations Soil | OP-65 | USCS and Proctor on-going |

GENERAL ACTIVITIES

- 1.0 Tank #3 The secondary geomembrane Tank #3 has ripped over the anchor bolts on the north and east sides of the tank. It appears that cold temperature of the water caused the liner to trampoline at the bottom of the ringwall. The weight of water combined with one-third of the required anchor bolts installed caused the liner to rip away from the anchor bolts. ESI shall repair the tears in the secondary geomembrane and reset the anchor bolts to remove the trampoline at the bottom of the ringwall.
- 2.0 Weather The site experienced high winds in the afternoon, which caused significant wind-blown dust and debris.

CONSTRUCTION ACTIVITIES

- 1.0 Drainage Gravel Stratton Survey was on-site to complete the as-built survey of the primary drainage gravel in Cell 10.
- 2.0 <u>Cell 10 Leachate Collection Pipe</u> Stratton Survey was on-site to as-built the location of the Cell 10 leachate collection pipe and primary clean-out riser pipe.
- 3.0 Operation Soil TWS continuing to haul operations soil from the excavation stockpile in two (2) Komatsu payhaulers. The soil was hauled over the south toe of slope haul road and spread using the CAT D8 dozer. CQA observed TWS placing and grading operations soil in Cell 10 with the CAT D8 dozer and one (1) CAT D6 LGP GPS dozer.

CQA also observed TWS utilizing the CAT 330 excavator to remove the north haul road ramp. The excavated soil was stockpiled in Cell 10, where two (2) CAT D6 LGP dozers to spread operations soil on the north side of the Cell 10 floor and up the north slope. In addition, TWS continued placing and grading the Cell 10 termination berm on the north slope.

In addition, CQA observed American Fence auguring and setting fence post on the south slope and floor of the Cell 9 termination berm using a bobcat with an attached auger.





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-205 |
|----------------|--------------------------------------|---------------|----------------|------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Wednesday, November 17, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Cloudy: Hi: 56°F Lo: 39°F |
| | | | | Wind: 39-mph Rain: 0.02-in |

CONSTRUCTION ACTIVITIES

4.0 Tank #3 - LLS completed the electronic leak detection of Tank #3. LLS found seven (7) leaks on the floor of the Tank #3. After TWS transferred the 18-in of water from Tank #3 to Tank #4, ESI repaired and non-destructively tested all seven locations. LLS retested the repair liner and found no leaks present on the floor of Tank #3.

Rips were located in the secondary geomembrane at the anchor bolts, see General Activities for more information

In addition, Stratton Survey was on-site to capture the as-built locations of the secondary repairs in Tank #3.

5.0 <u>Tank #4</u> – TWS completed transferring water to Tank #4. LLS completed the electronic leak detection on the side walls of the tank. LLS found no leaks in the geomembrane. Stratton Survey was on-site to capture the as-built locations of the secondary repairs in Tank #4.

ENVIROTECH – CQA DATE

M1 Page 354 of 376

PAGE 2 OF 2





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-206 |
|----------------|--------------------------------------|---------------|----------------|---|
| Job Number: | S013213A00 | Staff On-site | Date: | Thursday, November 18, 2010 |
| Contractor(s): | TradeWind Services | 3 | Weather: | Cloudy: Hi: 50°F Lo: 32°F Wind: 26-mph Rain: 0.09-in |

| FIELD NOTEBOOKS | | | | | |
|--------------------|--------------|-----------------------|--------------|--|--|
| Joe Voss Book 3 | Pages: 36 | Tyler Williams Book 4 | Pages: 37-39 | | |
| James Schut Book 3 | Pages: 10-11 | | | | |

| | LABORATORY TE | STING |
|-----------------------|---------------|--|
| 5-18M Operations Soil | OP-60 | USCS and Proctor on-going |
| 5-18M Operations Soil | OP-61 | USCS on-going |
| 5-18M Operations Soil | OP-62 | USCS on-going |
| 5-18M Operations Soil | OP-63 | USCS on-going |
| 5-18M Operations Soil | OP-64 | USCS on-going |
| 5-18M Operations Soil | OP-65 | USCS and Proctor on-going |
| 5-18M Operations Soil | OP-70 | Sample Collected: USCS and Proctor on-going |

GENERAL ACTIVITIES

- 1.0 Tank #3 ESI is reviewing options on the best fix for the tears in the secondary geomembrane at the anchor bolt in Tank #3.
- 2.0 Manhole 10 Manhole 10 was flooded overnight when TWS unhooked the Tank #3 and #4 pump hoses. TWS pumped and removed the excess water from MH-10.

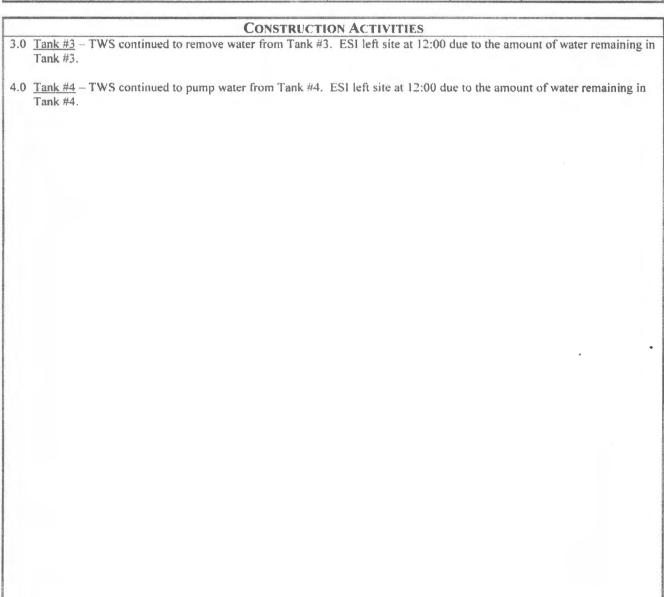
CONSTRUCTION ACTIVITIES

- 1.0 Operation Soil TWS continuing to haul operations soil from the excavation stockpile in two (2) Komatsu payhaulers. The soil was hauled over the south toe of slope haul road and spread using the CAT D8 dozer. CQA observed TWS placing and grading operations soil in Cell 10 with the CAT D8 dozer and two (2) CAT D6 LGP GPS dozer.
 - CQA witnessed TWS constructing the Cell 10 rain flap on the south slope. A TWS laborer propped the rain flap in a vertical direction, while a CAT D6 dozer placed operations soil to the west of the rain flap, anchoring it into place.
 - In addition, CQA observed American Fence placing the fence posts into the Cell 9 termination berm. The fence posts were placed into the holes augured on November 17, 2010 and concrete was placed into the holes. After the concrete was in-place, the fence posts were leveled. American Fence utilized a concrete pump truck to place concrete into the fence holes on the south slope, and a skid-steer bobcat with attached concrete bucket to place concrete in the fence holes on the floor termination berm.
- 2.0 Anchor Trench CQA observed TWS placing and compacting five (5) lifts of backfill in the Cell 10 anchor trench. The soil was placed with a CAT D6 dozer, moisture conditioned with a water truck, and compacted with a CAT 312 excavator with attached hoe-pack. CQA verifies that the fill was placed as per specifications.





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-206 |
|----------------|--------------------------------------|---------------|----------------|-----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Thursday, November 18, 2010 |
| Contractor(s): | TradeWind Services | 3 | Weather: | Cloudy: Hi: 50°F Lo: 32°F |
| | and district | | | Wind: 26-mph Rain: 0.09-in |



ENVIROTECH-CQA

11/30/1

PAGE 2 OF 2
M1 Page 356 of 376





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-207 |
|----------------|-------------------------|---------------|--|-----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Friday, November 19, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Overcast: Hi: 48°F Lo: 27°F |
| 1 | | | quantitative and the second se | Wind: 15-mph |

| FIELD NOTEBOOKS | | | | | |
|--------------------|--------------|-----------------------|--------------|--|--|
| Joe Voss Book 3 | Pages: 37-38 | Tyler Williams Book 4 | Pages: 40-42 | | |
| James Schut Book 3 | Pages: 12-13 | | | | |

| | LABORATORY TE | STING |
|-----------------------|---------------|---------------------------------|
| 5-18M Operations Soil | OP-60 | USCS and Proctor on-going |
| 5-18M Operations Soil | OP-61 | USCS on-going |
| 5-18M Operations Soil | OP-62 | USCS on-going |
| 5-18M Operations Soil | OP-63 | USCS on-going |
| 5-18M Operations Soil | OP-64 | USCS on-going |
| 5-18M Operations Soil | OP-65 | USCS and Proctor on-going |
| 5-18M Operations Soil | OP-66 | Sample Collected: USCS on-going |
| 5-18M Operations Soil | OP-67 | Sample Collected: USCS on-going |
| 5-18M Operations Soil | OP-68 | Sample Collected: USCS on-going |
| 5-18M Operations Soil | OP-69 | Sample Collected: USCS on-going |
| 5-18M Operations Soil | OP-70 | USCS and Proctor on-going |

GENERAL ACTIVITIES

- 1.0 Tank #3 ESI began repairing the anchor bolt tears in Tank #3 secondary geomembrane. The holes are to be patched, and the liner re-hung to remove the trampoline at the bottom of the side wall. ESI shall install all anchor bolts in order to better distribute the weight of the liner.
- 2.0 Tank #4 Upon inspection, CQA also located tears in the geomembrane from the anchor bolts in Tank #4. The tears are less pronounced in Tank #4. CQA directed ESI to repair all tears in the secondary geomembrane. In addition, water was left in Tank #4 overnight, the surface of the water froze, leaving a thin layer of surface ice. The thawed during the day.

CONSTRUCTION ACTIVITIES

1.0 Operation Soil – TWS continuing to haul operations soil from the excavation stockpile in two (2) Komatsu payhaulers. The soil was hauled over the south toe of slope haul road and spread using the CAT D8 dozer. CQA observed TWS placing and grading operations soil in Cell 10 with the CAT D8 dozer and two (2) CAT D6 LGP GPS dozer.

CQA witnessed TWS constructing the Cell 10 rain flap on the south slope. The CAT 312 excavator placed soil on the east side of the rain flap. CQA visually verified that the rain flap remained in a vertical direction during operations soil placement. After the CAT 312 completed the rain flap detail, CQA observed a CAT D6 GPS dozer constructing the termination berm on the south slope of Cell 10. At the end of the day, CQA verified that the south slope of Cell 10 was completely covered with operations soil and the admix beneath protected from freezing temperatures.

Stratton Survey was on-site to capture the as-built locations of the secondary repairs in Tank #3.





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-207 |
|----------------|--------------------------------------|---------------|----------------|-----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Friday, November 19, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Overcast: Hi: 48°F Lo: 27°F |
| | | | | Wind: 15-mph |

CONSTRUCTION ACTIVITIES

- 2.0 Anchor Trench CQA observed TWS placing and compacting five (5) lifts of backfill in the Cell 10 anchor trench. The soil was placed with a CAT D6 dozer, moisture conditioned with a water truck, and compacted with a CAT 312 excavator with attached hoe-pack. CQA verifies that the fill was placed as per specifications.
- 3.0 Tank #3 ESI completed drying the geomembrane and Tank #3 and began repairing the anchor bolt tears in the secondary geomembrane. ESI removed each baton strip individually, repaired the holes, and re-hung the liner in order to ensure no trampoline exists at the bottom of the side wall. After the geomembrane was measured, ESI placed and secured all anchor bolts in the secondary geomembrane. The baton strip was replaced and the process replicated on the next baton strip.

Stratton Survey was on-site to capture the as-built locations of the secondary repairs in Tank #3.

| 4.0 | Tank #4 - TWS dried and removed the water from Tank #4. | Stratton Survey was on-site to capture the as-built locations |
|-----|---|---|
| | of the secondary repairs in Tank #4. | |

ENVIROTECH-CQA DATE





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-208 |
|----------------|--------------------------------------|---------------|----------------|-----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Saturday, November 20, 2010 |
| Contractor(s): | TradeWind Services | 2 | Weather: | Overcast: Hi: 39°F Lo: 31°F |
| 1 | | | | Wind: 17-mph Rain: Trace |

| FIELD NOTEBOOKS | | | | |
|-----------------------|----------|--------------------|--------------|--|
| Tyler Williams Book 4 | Page: 43 | James Schut Book 3 | Pages: 14-15 | |

| | LABORATORY TE | STING |
|-----------------------|---------------|---------------------------|
| 5-18M Operations Soil | OP-60 | USCS and Proctor on-going |
| 5-18M Operations Soil | OP-61 | USCS on-going |
| 5-18M Operations Soil | OP-62 | USCS on-going |
| 5-18M Operations Soil | OP-63 | USCS on-going |
| 5-18M Operations Soil | OP-64 | USCS on-going |
| 5-18M Operations Soil | OP-65 | USCS and Proctor on-going |
| 5-18M Operations Soil | OP-66 | USCS on-going |
| 5-18M Operations Soil | OP-67 | USCS on-going |
| 5-18M Operations Soil | OP-68 | USCS on-going |
| 5-18M Operations Soil | OP-69 | USCS on-going |
| 5-18M Operations Soil | OP-70 | USCS and Proctor on-going |

CONSTRUCTION ACTIVITIES

1.0 Tank #4 - CQA observed ESI installing two (2) rolls of geocomposite into Tank #3. CQA witnessed ESI joining the geocomposite together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together and leistering the butt seams. ESI covered the tank floor with geocomposite; the damaged secondary geomembrane at the anchor bolts was not covered with geocomposite.

ENVIROTECH-CQA

11/30/10 DATE

DATE





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-209 |
|----------------|-------------------------|---------------|----------------|----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Monday, November 22, 2010 |
| Contractor(s): | TradeWind Services | 2 | Weather: | Cloudy: Hi: 25°F Lo: 19°F |
| | | | | Wind: 27-mph Snow: 0.14-in |

| FIELD NOTEBOOKS | | | |
|-----------------------|--------------|--------------------|--------------|
| Tyler Williams Book 4 | Pages: 44-45 | James Schut Book 3 | Pages: 16-17 |

| | LABORATORY TE | STING |
|-----------------------|---------------|---------------------------|
| 5-18M Operations Soil | OP-60 | USCS and Proctor on-going |
| 5-18M Operations Soil | OP-61 | USCS on-going |
| 5-18M Operations Soil | OP-62 | USCS on-going |
| 5-18M Operations Soil | OP-63 | USCS on-going |
| 5-18M Operations Soil | OP-64 | USCS on-going |
| 5-18M Operations Soil | OP-65 | USCS and Proctor on-going |
| 5-18M Operations Soil | OP-66 | USCS on-going |
| 5-18M Operations Soil | OP-67 | USCS on-going |
| 5-18M Operations Soil | OP-68 | USCS on-going |
| 5-18M Operations Soil | OP-69 | USCS on-going |
| 5-18M Operations Soil | OP-70 | USCS and Proctor on-going |

GENERAL ACTIVITIES

1.0 Weather - Snow fell continuously throughout the day; ESI left site after the POD due to cold weather and falling snow.

CONSTRUCTION ACTIVITIES

1.0 Operation Soil – TWS continuing to haul operations soil from the excavation stockpile in two (2) Komatsu payhaulers. The soil was hauled over the south toe of slope haul road and spread using the CAT D8 dozer. CQA observed TWS placing and grading operations soil on the south half of Cell 10 with the CAT D8 dozer and two (2) CAT D6 LGP GPS dozer.

ENVIROTECH-CQA

11/3/10

M1 Page 360 of 376





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-210 |
|----------------|-------------------------|---------------|----------------|----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Tuesday, November 23, 2010 |
| Contractor(s): | TradeWind Services | possessi | Weather: | Cloudy: Hi: 20°F Lo: 2°F |
| | | | | Wind: 26-mph |

| FIELD NOTEBOOKS | | | |
|--------------------|--------------|--|--|
| James Schut Book 3 | Pages: 18-19 | | |

| | LABORATORY TE | STING |
|-----------------------|---------------|---------------------------|
| 5-18M Operations Soil | OP-60 | USCS and Proctor on-going |
| 5-18M Operations Soil | OP-61 | USCS on-going |
| 5-18M Operations Soil | OP-62 | USCS on-going |
| 5-18M Operations Soil | OP-63 | USCS on-going |
| 5-18M Operations Soil | OP-64 | USCS on-going |
| 5-18M Operations Soil | OP-65 | USCS and Proctor on-going |
| 5-18M Operations Soil | OP-66 | USCS on-going |
| 5-18M Operations Soil | OP-67 | USCS on-going |
| 5-18M Operations Soil | OP-68 | USCS on-going |
| 5-18M Operations Soil | OP-69 | USCS on-going |
| 5-18M Operations Soil | OP-70 | USCS and Proctor on-going |

GENERAL ACTIVITIES 1.0 Weather – Due to weather conditions, TWS conducted no construction activities.

| | CONSTRUCTION ACTIVITIES | | |
|---------------|-------------------------|--|--|
| | | | |
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ENVIROTECH - CQA

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| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-211 |
|----------------|--------------------------------------|---------------|----------------|--|
| Job Number: | S013213A00 | Staff On-site | Date: | Monday, November 29, 2010 |
| Contractor(s): | TradeWind Services | · · | Weather: | Overcast: Hi: 24°F Lo: 22°F Wind: 9-mph Flurries: 0.01-in |

| FIELD NOTEBOOKS | | | |
|-----------------|--------------|--|--|
| Joe Voss Book 3 | Pages: 39-40 | | |

| LABORATORY TESTING | | | | |
|-----------------------|-------|---------------------------|--|--|
| 5-18M Operations Soil | OP-60 | USCS and Proctor: Passed | | |
| 5-18M Operations Soil | OP-61 | USCS: Passed | | |
| 5-18M Operations Soil | OP-62 | USCS: Passed | | |
| 5-18M Operations Soil | OP-63 | USCS: Passed | | |
| 5-18M Operations Soil | OP-64 | USCS on-going | | |
| 5-18M Operations Soil | OP-65 | USCS and Proctor: Passed | | |
| 5-18M Operations Soil | OP-66 | USCS on-going | | |
| 5-18M Operations Soil | OP-67 | USCS on-going | | |
| 5-18M Operations Soil | OP-68 | USCS on-going | | |
| 5-18M Operations Soil | OP-69 | USCS on-going | | |
| 5-18M Operations Soil | OP-70 | USCS and Proctor on-going | | |

GENERAL ACTIVITIES

1.0 Weather - Due to weather conditions, ESI conducted no construction activities.

CONSTRUCTION ACTIVITIES

1.0 Operation Soil – TWS continuing to haul operations soil from the excavation stockpile in two (2) Komatsu payhaulers. The soil was hauled over the south toe of slope haul road and spread using the CAT D8 dozer. CQA observed TWS placing and grading operations soil on the south half of Cell 10 with the CAT D8 dozer and two (2) CAT D6 LGP GPS dozer.

ENVIROTECH-CQA

/2/3/10 DATE

M1 Page 362 of 376





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-16-212 |
|----------------|--------------------------------------|--|----------------|-----------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Tuesday, November 30, 2010 |
| Contractor(s): | TradeWind Services | 3 | Weather: | Overcast: Hi: 28°F Lo: 17°F |
| | | A STATE OF THE STA | | Wind: 6-mph Snow and Ice: 0.33-in |

| | | OTEBOOKS | 3-3-3 |
|-----------------|--------------|----------|-------|
| Joe Voss Book 3 | Pages: 41-42 | | |

| LABORATORY TESTING | | | | |
|-----------------------|-------|---------------------------|--|--|
| 5-18M Operations Soil | OP-64 | USCS on-going | | |
| 5-18M Operations Soil | OP-66 | USCS on-going | | |
| 5-18M Operations Soil | OP-67 | USCS on-going | | |
| 5-18M Operations Soil | OP-68 | USCS on-going | | |
| 5-18M Operations Soil | OP-69 | USCS on-going | | |
| 5-18M Operations Soil | OP-70 | USCS and Proctor on-going | | |

GENERAL ACTIVITIES

- 1.0 Weather Due to weather conditions, ESI conducted no construction activities. The site was shut-down at 12:15 due to deteriorating weather conditions.
- 2.0 Weekly Progress Meeting The construction subcontractor's weekly progress meeting on Tuesday, November 30th, 2010 at 10:00 am. in the WCH trailer.
- 3.0 <u>CQA Weekly Progress Meeting</u> CQA attended the CQA subcontractor's weekly progress meeting on Tuesday, November 30th, 2010 at 10:15 am in the meeting trailer.

CONSTRUCTION ACTIVITIES

1.0 Operation Soil – TWS continuing to haul operations soil from the excavation stockpile in two (2) Komatsu payhaulers. The soil was hauled over the south toe of slope haul road and spread using the CAT D8 dozer. CQA observed TWS placing and grading operations soil on the south half of Cell 10 with the CAT D8 dozer and two (2) CAT D6 LGP GPS dozer. TWS completed spreading operations material in Cell 10 with the dozers. Additional material was hauled to the Cell 10 entrance ramp in preparation for the operations road placement through Cell 10.

CQA surveyors were on-site to as-built the operations soil in Cells 9 and 10. The survey was left incomplete when the site was shut down.

In addition, CQA observed TWS placing chain link fence onto the Cell 9 termination posts as per design drawings.

ENVIROTECH-CQA DATE





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-213 |
|----------------|-------------------------|---------------|----------------|------------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Wednesday, December 1, 2010 |
| Contractor(s): | TradeWind Services | 1 | Weather: | Overcast: Hi: 33°F Lo: 15°F |
| | | | | Wind: 7-mph Freezing Rain: 0.01-in |

| FIELD NOTEBOOKS | | | |
|-----------------|--------------|--|--|
| Joe Voss Book 3 | Pages: 43-44 | | |

| LABORATORY TESTING | | | | |
|-----------------------|-------|---------------------------|--|--|
| 5-18M Operations Soil | OP-64 | USCS on-going | | |
| 5-18M Operations Soil | OP-66 | USCS on-going | | |
| 5-18M Operations Soil | OP-67 | USCS on-going | | |
| 5-18M Operations Soil | OP-68 | USCS on-going | | |
| 5-18M Operations Soil | OP-69 | USCS on-going | | |
| 5-18M Operations Soil | OP-70 | USCS and Proctor on-going | | |

GENERAL ACTIVITIES

1.0 Weather - Due to weather conditions, ESI conducted no construction activities.

CONSTRUCTION ACTIVITIES

1.0 Operation Soil -CQA observed TWS placing chain link fence onto the Cell 9 termination posts as per design drawings. In addition, CQA verified that the operation survey in the area of the Cell 10 floor haul road met specifications.

ENV/ROTECH-CQA

12/*3)(0* DATE





| Project ID: | 01-0032 ERDF Cells 9-1 | 0 Construction | Report Number: | 5-16-214 |
|----------------|------------------------|----------------|----------------|--|
| Job Number: | S013213A00 | Staff On-site | Date: | Thursday, December 2, 2010 |
| Contractor(s): | TradeWind Services | 0 | Weather: | Overcast: Hi: 35°F Lo: 29°F Wind: 8-mph |

| FIELD NOTEBOOKS | ٦ |
|-----------------|---|
| | |

| | LABORATORY TE | STING |
|-----------------------|---------------|---------------------------|
| 5-18M Operations Soil | OP-64 | USCS on-going |
| 5-18M Operations Soil | OP-66 | USCS on-going |
| 5-18M Operations Soil | OP-67 | USCS on-going |
| 5-18M Operations Soil | OP-68 | USCS on-going |
| 5-18M Operations Soil | OP-69 | USCS on-going |
| 5-18M Operations Soil | OP-70 | USCS and Proctor on-going |

GENERAL ACTIVITIES

1.0 Weather - Due to weather conditions, ESI conducted no construction activities. CQA was not present on-site.

1.0 Operation Soil -TWS placed chain link fence onto the Cell 9 termination posts as per design drawings.

| CONST | DECTION | ACTIVITIES | |
|-------|---------|--------------|--|
| CUNSI | RUCITON | MULITALITIES | |

ENVIROTECH - CQA

12/3/10

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| Project ID: | 01-0032 ERDF Cells 9-10 |) Construction | Report Number: | 5-16-215 |
|----------------|-------------------------|----------------|----------------|-----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Monday, December 6, 2010 |
| Contractor(s): | TradeWind Services | 2 | Weather: | Overcast: Hi: 36°F Lo: 21°F |
| | advanta | | anne anno | Wind: I0-mph |

| FIELD NOTEBOOKS | | | | |
|-----------------|-----------------|--------------|-----------------------|--------------|
| | Joe Voss Book-3 | Pages: 46-47 | Tyler Williams Book 4 | Pages: 46-50 |

| | LABORATORY TE | STING |
|-----------------------|---------------|---------------------------|
| 5-18M Operations Soil | OP-64 | USCS on-going |
| 5-18M Operations Soil | OP-66 | USCS on-going |
| 5-18M Operations Soil | OP-67 | USCS on-going |
| 5-18M Operations Soil | OP-68 | USCS on-going |
| 5-18M Operations Soil | OP-69 | USCS on-going |
| 5-18M Operations Soil | OP-70 | USCS and Proctor on-going |

GENERAL ACTIVITIES

- 1.0 Weather Due to weather conditions, ESI conducted no construction activities.
- 2.0 <u>Accelerated Schedule</u> CQA was informed by the Bill Melvin, the WCH project manager, that WCH was intending to significantly accelerate the project schedule. Funds will be made available to accelerate the schedule.

CONSTRUCTION ACTIVITIES

- 1.0 South Embankment CQA observed TWS placing top course rock over the south cell access road, south of Cell 10. The gravel was spread with a dozer and compacted with a CS-563 smooth drum roller. CQA shall test the road at a later date.
- 2.0 <u>Electrical Vaults</u> CQA observed TWS placing concrete bollards around the Cell 10 electrical vault and panel on the north berm of Cell 10.
- 3.0 Operation Soil American Fence hung fabric on the Cell 9 termination fence as per construction drawings.
- 4.0 Crest Pad 9 CQA observed Total Energy calibrating the secondary and primary transducers in Crest Pad 9. In addition, TWS attempted to perform the 2-hour pump test for the primary pumps in Crest Pad 9. However, neither the primary low flow pump nor the primary high flow pump performed correctly. During the testing the flow meters malfunctioned, providing erroneous readings.
- 5.0 Tank #3 CQA observed TWS and ESI beginning to construct a tent over Tank #3. TWS placed a center support into Tank #3 with supporting guide wires. The tank tarp shall arrive at a later date.

ENVIROTECH-CQA

12/8/10

PAGE 1 OF 1
M1 Page 366 of 376





| Project ID: | 01-0032 ERDF Cells 9-10 | Construction | Report Number: | 5-16-216 |
|----------------|-------------------------|---------------|----------------|-----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Tuesday, December 7, 2010 |
| Contractor(s): | TradeWind Services | 2 | Weather: | Overcast: Hi: 36°F Lo: 26°F |
| | | | | Wind: 18-mph |

| FIELD NOTEBOOKS | | | | |
|--|--|--|--|--|
| Joe Voss Book 3Pages: 48-50Tyler Williams Book 4Pages: 51-53 | | | | |

| | LABORATORY TE | STING |
|-----------------------|---------------|---------------------------|
| 5-18M Operations Soil | OP-64 | USCS on-going |
| 5-18M Operations Soil | OP-66 | USCS on-going |
| 5-18M Operations Soil | OP-67 | USCS on-going |
| 5-18M Operations Soil | OP-68 | USCS on-going |
| 5-18M Operations Soil | OP-69 | USCS on-going |
| 5-18M Operations Soil | OP-70 | USCS and Proctor on-going |

GENERAL ACTIVITIES

- 1.0 Weather Due to weather conditions, ESI conducted no geosynthetic activities.
- 2.0 Schedule Meeting CQA attended a meeting on Tuesday, December 7th 2010 in MO-607 to define the accelerated schedule and set goals for construction and documentation submittals.
- 3.0 Weekly Progress Meeting CQA attended the DOE and EPA interface meeting over the Cell 9 liner report on Tuesday, December 7th, 2010 at 10:00 am. in the MO-607 Conference Room,
- 4.0 Weekly Progress Meeting –CQA attended the construction subcontractor's weekly progress meeting on Tuesday, December 7th, 2010 at 10:00 am. in the MO-607 Conference Room.

CONSTRUCTION ACTIVITIES

- 1.0 Operation Soil American Fence continued to hang fabric on the Cell 9 termination fence as per construction drawings.
- 2.0 Manholes American Electric installed flood switches in MH-32 though the previously trenched electrical conduit. In addition, American Electric installed wireless flood switches in MH-34, MH-35 and MH-36.
- 3.0 Crest Pad 9 BMWC replaced the flow meters in the Cell 9 Crest Pad. CQA observed TWS attempting to perform the 2-hour pump test for the primary pumps in Crest Pad 9. However, the low flow pump continued to pump at a high rate and the high flow pump never functioned above 40 gpm. After turning off the pumps, significant backpressure was observed in the all pump discharge lines. The 2-hour pump test was cancelled and will continue at a later date.
- 4.0 Tank #3 CQA observed TWS and ESI continuing to constructing a tent over Tank #3. TWS and ESI placed a 150-ft x 150-ft tarp over the support ropes installed in Tank #3 on Monday, December 6, 2010. The ends of the tarp were weighed down with sand bags.

ENV/ROTECH-CQA

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| Project ID: | 01-0032 ERDF Cells 9-10 |) Construction | Report Number: | 5-16-217 |
|----------------|-------------------------|----------------|----------------|-----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Wednesday, December 8, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Overcast: Hi: 40°F Lo: 26°F |
| | 000000 | | | Wind: 12-mph |

| FIELD NOTEBOOKS | | | | |
|--------------------|--------------|-----------------------|-----------|--|
| Joe Voss Book 3 | Pages: 52 | Tyler Williams Book 4 | Pages: 54 | |
| James Schut Book 3 | Pages: 21-22 | | | |

| | LABORATORY TES | STING |
|-----------------------|----------------|--|
| 5-18M Operations Soil | OP-64 | USCS on-going |
| 5-18M Operations Soil | OP-66 | USCS on-going |
| 5-18M Operations Soil | OP-67 | USCS on-going |
| 5-18M Operations Soil | OP-68 | USCS on-going |
| 5-18M Operations Soil | OP-69 | USCS on-going |
| 5-18M Operations Soil | OP-70 | USCS and Proctor on-going |
| 5-18M Operations Soil | OP-71 | Sample Collected: USCS on-going |
| 5-18M Operations Soil | OP-72 | Sample Collected: USCS on-going |
| 5-18M Operations Soil | OP-73 | Sample Collected: USCS on-going |
| 5-18M Operations Soil | OP-74 | Sample Collected: USCS on-going |
| 5-18M Operations Soil | OP-75 | Sample Collected: USCS and Proctor on-going |
| 5-18M Operations Soil | OP-76 | Sample Collected: USCS on-going |

CONSTRUCTION ACTIVITIES

- 1.0 Operation Soil American Fence continued installation of the Cells 9 and 10 termination fence. Stratton Surveying was on-site to capture the as-built of the operations on the floor of Cells 9 and 10.
- 2.0 Crest Pad 9 BMWC and TWS pulled the high flow pump from the Cell 9 sump and replaced the pump with a spare pump borrowed from operations. After the pump was installed, the flow rates remained low. After speaking with Total Energy, the electrical resistance constants in the flow meters were not set correctly. The pumps were delivering higher flows than the meters were reading. Total Energy shall be on-site tomorrow to correct the pump control logic. The 2-hour pump test was cancelled and will continue at a later date.
- 3.0 Tank #3 CQA observed TWS and ES1 continuing to constructing a tent over Tank #3. TWS placed a rope over the tarp and around the tank to hold the tarp in-place. CQA and ES1 inspected Tank #3 and discovered that the secondary liner is currently pulled tight on the north and east sides of the tank, causing the geomembrane to bridge across the curvature of the tank. Consulting with the geomembrane installer, to effectively repair the secondary geomembrane, ES1 plans to cut the geomembrane vertically along the wall and install a supplementary panel to remove the trampoline in the secondary liner.
- 4.0 Raw Water Line BMWC tested the raw water line installed south of Cells 9 and 10. CQA verified that the pipe held 175 psi for 2 hours. In addition, TWS poured the concrete thrust blocks as show on the design drawings. TWS placed one (1) lift of backfill on the raw water line with the CAT 312 excavator, and TWS shall compact lift 1 at a later date.

ENVIROTECH-CQA

12/15/10





| Project ID: | 01-0032 ERDF Cells 9-10 |) Construction | Report Number: | 5-18-218 |
|----------------|--|----------------|----------------|-----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Thursday, December 9, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Overcast: Hi: 53°F Lo: 29°F |
| | The state of the s | | | Wind: 28-mph Rain: 0.21-in. |

| FIELD NOTEBOOKS | | | | |
|--------------------|--------------|-----------------------|--------------|--|
| Joe Voss Book 3 | Pages: 53 | Tyler Williams Book 4 | Pages: 55-58 | |
| James Schut Book 3 | Pages: 23-24 | | | |

| FIELD TESTING | | | | |
|--------------------------------------|------------|------------------|--------|--|
| Submittal 5-18B: Raw Water Line Fill | Lifts: 1-4 | RAW-01 to RAW-08 | Passed | |
| Submittal 5-18B: South Access Road | Lift: 1 | SAR-01 to SAR-06 | Passed | |

| CQA HOLD POINTS | | | | |
|-----------------------------|------------------|------------------------------|--|--|
| Submittal 5-18R-109 Tank #4 | December 9, 2010 | Tank #4 Secondary Acceptance | | |

| ATE DO PLANE LITTLE OF THE COMMENT AND A SECOND PROPERTY OF THE COMMENT AND A SECOND | LABORATORY TES | STING |
|---|----------------|---------------------------|
| 5-18M Operations Soil | OP-64 | USCS on-going |
| 5-18M Operations Soil | OP-66 | USCS on-going |
| 5-18M Operations Soil | OP-67 | USCS on-going |
| 5-18M Operations Soil | OP-68 | USCS on-going |
| 5-18M Operations Soil | OP-69 | USCS on-going |
| 5-18M Operations Soil | OP-70 | USCS and Proctor on-going |
| 5-18M Operations Soil | OP-71 | USCS on-going |
| 5-18M Operations Soil | OP-72 | USCS on-going |
| 5-18M Operations Soil | OP-73 | USCS on-going |
| 5-18M Operations Soil | OP-74 | USCS on-going |
| 5-18M Operations Soil | OP-75 | USCS and Proctor on-going |
| 5-18M Operations Soil | OP-76 | USCS on-going |

GENERAL ACTIVITIES

1.0 Tanks and Reporting – Due to continuing repair problems associated with the secondary geomembrane in Tank #3, ESI moved operations to Tank #4 to better accommodate the accelerated schedule. Following the move to Tank #4, the final reporting shall now be divided into four reports with Cell 9 report and Tank #4 report to match the accelerated schedule and Tank #3 and Cell 10 reports to follow.

CONSTRUCTION ACTIVITIES

1.0 Operations Soil - Stratton Survey was on-site to complete the operations survey in Cells 9 and 10.





| Project 1D: | 01-0032 ERDF Cells 9-10 (| Construction | Report Number: | 5-18-218 |
|----------------|---|---------------|----------------|-----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Thursday, December 9, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Overcast: Hi: 53°F Lo: 29°F |
| | *************************************** | | | Wind: 28-mph Rain: 0.21-in. |

CONSTRUCTION ACTIVITIES (CONTINUED)

- 2.0 <u>Crest Pad 9</u> Total Energy was on-site to set the flow meters in the Cell 9 Crest Pad. TWS conducted the 2-hour pump tests for the primary high-flow and low-flow pumps.
- 3.0 Tank #3 High winds caused the Tank #3 cover to lift off the tank. ESI and TWS removed the Tank #3 cover.
- 4.0 <u>Tank #4</u> ESI began removing excess water from the secondary liner in Tank #4. In addition, ESI repaired the non-conforming bolt hole tears in the secondary geomembrane. After the repairs were completed, ESI deployed six (6) panels of primary geomembrane, P-01 to P-06 on the side walls of Tank #4. The panels hung on the tank walls and double wedge welded together.
- 5.0 Raw Water Line TWS backfilled and compacted four (4) lifts of soil over the raw water line south Cells 9 and 10 with the CAT 312 excavator. The first lift was placed 12-in thick with subsequent lifts 6-in thick. CQA tested and verified that lifts 1-4 over the raw water line met construction specifications.
- 6.0 South Access Road TWS placed and compacted base course gravel over the south access road during the previous week, south of Cells 9 and 10. The gravel was spread with a D6 dozer and compacted with the CS-563 smooth drum roller. CQA tested and verified that lift 1 of the south access road met compaction specifications.

ENVIROTECH - CQA

12/.5/10 DATE

PAGE 2 OF 2





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-18-219 |
|----------------|--------------------------------------|---------------|----------------|---|
| Job Number: | S013213A00 | Staff On-site | Date: | Friday, December 10, 2010 |
| Contractor(s): | TradeWind Services | 3 | Weather: | Overcast: Hi: 46°F Lo: 31°F Wind: 30-mph |

| FIELD NOTEBOOKS | | | | |
|---|----------|--|--|--|
| Joe Voss Book 3 Page: 54 Tyler Williams Book 4 Pages: 59-60 | | | | |
| James Schut Book 3 | Page: 25 | | | |

| | FIELD T | ESTING | | |
|--|---------|--------------------|--------|--|
| Submittal 5-18N: Operations Soil Cell 9 | Lift: 1 | OL9-01 to OL9-54 | Passed | |
| Submittal 5-18N: Operations Soil Cell 10 | Lift: 1 | OL10-01 to OL10-54 | Passed | |

| LABORATORY TESTING | | | | |
|-----------------------|-------|---------------------------|--|--|
| 5-18M Operations Soil | OP-64 | USCS on-going | | |
| 5-18M Operations Soil | OP-66 | USCS on-going | | |
| 5-18M Operations Soil | OP-67 | USCS on-going | | |
| 5-18M Operations Soil | OP-68 | USCS on-going | | |
| 5-18M Operations Soil | OP-69 | USCS on-going | | |
| 5-18M Operations Soil | OP-70 | USCS and Proctor on-going | | |
| 5-18M Operations Soil | OP-71 | USCS on-going | | |
| 5-18M Operations Soil | OP-72 | USCS on-going | | |
| 5-18M Operations Soil | OP-73 | USCS on-going | | |
| 5-18M Operations Soil | OP-74 | USCS on-going | | |
| 5-18M Operations Soil | OP-75 | USCS and Proctor on-going | | |
| 5-18M Operations Soil | OP-76 | USCS on-going | | |

CONSTRUCTION ACTIVITIES

- 1.0 Operations Soil CQA completed operations testing in Cells 9 and 10. CQA tested and verified that all placed operations soil met construction requirements.
- 2.0 Crest Pad 9 TWS began the dry-run of the Acceptance Test Procedures (ATP) for Cell 9. After encountering several problems with alarms, set-points, and pump functions, TWS halted the dry-run and contacted Total Energy to repair the system. Total Energy shall be on-site Monday, December 12 to fix the system and complete the dry-run.
- 3.0 Tank #4 ESI continuing installing primary liner in Tank 4. ESI deployed two (2) LLDPE panels on the walls of Tank #4. CQA witnessed ESI double wedge welding panels P-07 and P-08 to the adjoining wall panels in Tank #4. After the wall panels were welded, ESI began installing the baton strips and anchor bolts.

ENVIROTECH-CQA

12/19/10

DATE

M1 Page 371 of 376





| Project ID: | 01-0032 ERDF Cells 9-10 |) Construction | Report Number: | 5-18-220 |
|----------------|-------------------------|----------------|----------------|-----------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Saturday, December 11, 2010 |
| Contractor(s): | TradeWind Services | 2 | Weather: | Overcast: Hi: 33°F Lo: 29°F |
| | docadased | | | Wind: 17-mph Snow: 0.33-in |

| FIELD NOTEBOOKS | | | | | |
|---|--|--|--|--|--|
| Joe Voss Book 3 Page: 55 Tyler Williams Book 4 Pages: 61-62 | | | | | |

| LABORATORY TESTING | | | | |
|-----------------------|-------|---------------------------|--|--|
| 5-18M Operations Soil | OP-64 | USCS on-going | | |
| 5-18M Operations Soil | OP-66 | USCS on-going | | |
| 5-18M Operations Soil | OP-67 | USCS on-going | | |
| 5-18M Operations Soil | OP-68 | USCS on-going | | |
| 5-18M Operations Soil | OP-69 | USCS on-going | | |
| 5-18M Operations Soil | OP-70 | USCS and Proctor on-going | | |
| 5-18M Operations Soil | OP-71 | USCS on-going | | |
| 5-18M Operations Soil | OP-72 | USCS on-going | | |
| 5-18M Operations Soil | OP-73 | USCS on-going | | |
| 5-18M Operations Soil | OP-74 | USCS on-going | | |
| 5-18M Operations Soil | OP-75 | USCS and Proctor on-going | | |
| 5-18M Operations Soil | OP-76 | USCS on-going | | |

GENERAL ACTIVITIES

1.0 Weather - Due to weather conditions, ESI conducted no geosynthetic activities.

CONSTRUCTION ACTIVITIES

1.0 Tank #4 - ESI attempted to defrost the tank, but with worsening weather conditions, no construction work was completed.

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12/17/10

OATE M1 Page 372 of 376





| Project ID: | 01-0032 ERDF Cells 9-1 | 0 Construction | Report Number: | 5-18-221 |
|----------------|------------------------|----------------|----------------|---|
| Job Number: | S013213A00 | Staff On-site | Date: | Monday, December 12, 2010 |
| Contractor(s): | TradeWind Services | 2 | Weather: | Overcast: Hi: 58°F Lo: 36°F Wind: 16-mph Rain: 0.04-in |

| FIELD NOTEBOOKS | | | |
|-----------------|-------------|-----------------------|--------------|
| Joe Voss Book 3 | Page: 56-57 | Tyler Williams Book 4 | Pages: 63-66 |

| FIELD TESTING | | | | |
|-----------------------------------|---------------------------|----------------------|--|--|
| TWS Submittal 5-06: ATP (Dry-Run) | Monday, December 12, 2010 | Conditionally Passed | | |

| | LABORATORY TE | STING |
|-----------------------|---------------|---------------------------|
| 5-18M Operations Soil | OP-64 | USCS on-going |
| 5-18M Operations Soil | OP-66 | USCS on-going |
| 5-18M Operations Soil | OP-67 | USCS on-going |
| 5-18M Operations Soil | OP-68 | USCS on-going |
| 5-18M Operations Soil | OP-69 | USCS on-going |
| 5-18M Operations Soil | OP-70 | USCS and Proctor on-going |
| 5-18M Operations Soil | OP-71 | USCS on-going |
| 5-18M Operations Soil | OP-72 | USCS on-going |
| 5-18M Operations Soil | OP-73 | USCS on-going |
| 5-18M Operations Soil | OP-74 | USCS on-going |
| 5-18M Operations Soil | OP-75 | USCS and Proctor on-going |
| 5-18M Operations Soil | OP-76 | USCS on-going |

CONSTRUCTION ACTIVITIES

1.0 Crest Pad 9 - Total Energy was on-site to correct the control issues with the Cell 9 Crest Pad electrical system. During the inspection, Total Energy discovered that the control box was not wired correctly. Total Energy corrected the wiring and the test was resumed in the afternoon.

TWS conducted the dry-run of the Acceptance Test Procedures (ATP) for Cell 9. CQA documented and verified that the dry-run of the ATP for Crest Pad Building 9 were conducted.

2.0 Tank #4 – ESI continuing installing primary liner in Tank 4. ESI deployed seven (7) LLDPE panels on the floor of Tank #4. CQA witnessed ESI double wedge welding floor panels P-09 to P-15 to the adjoining wall panels in Tank #4. After the wall panels were welded, ESI began installing the baton strips and anchor bolts.

ENVIROTECH-CQA

12/19/10 DATE





| Project ID: | 01-0032 ERDF Cells 9-1 | 0 Construction | Report Number: | 5-18-222 |
|-------------|------------------------|----------------|----------------|---|
| Job Number: | S013213A00 | Staff On-site | Date: | Tuesday, December 14, 2010 |
| | TradeWind Services | 4 | Weather: | Cloudy: Hi: 50°F Lo: 37°F Wind: 47-mph Rain: 0.06-in |

| FIELD NOTEBOOKS | | | | |
|--------------------|--------------|-----------------------|--------------|--|
| Joe Voss Book 3 | Pages: 58-60 | Tyler Williams Book 4 | Pages: 67-68 | |
| James Schut Book 3 | Page: 26 | | | |

| LABORATORY TESTING | | | | |
|-----------------------|-------|---------------------------|--|--|
| 5-18M Operations Soil | OP-64 | USCS: Passed | | |
| 5-18M Operations Soil | OP-66 | USCS: Passed | | |
| 5-18M Operations Soil | OP-67 | USCS: Passed | | |
| 5-18M Operations Soil | OP-68 | USCS: Passed | | |
| 5-18M Operations Soil | OP-69 | USCS: Passed | | |
| 5-18M Operations Soil | OP-70 | USCS and Proctor: Passed | | |
| 5-18M Operations Soil | OP-71 | USCS on-going | | |
| 5-18M Operations Soil | OP-72 | USCS on-going | | |
| 5-18M Operations Soil | OP-73 | USCS on-going | | |
| 5-18M Operations Soil | OP-74 | USCS on-going | | |
| 5-18M Operations Soil | OP-75 | USCS and Proctor on-going | | |
| 5-18M Operations Soil | OP-76 | USCS on-going | | |

GENERAL ACTIVITIES

- 1.0 Weekly Progress Meeting –The construction subcontractor's weekly progress meeting was held on Tuesday, December 13th, 2010 at 10:00 am. in the WCH trailer.
- 2.0 Troxler CQA demobilized the Troxler moisture-density gage from site.

CONSTRUCTION ACTIVITIES

- 1.0 Operations Soil Stratton Surveying was on-site to complete the surveying of the operations soil in Cells 9 and 10, as well as the south access road, south of Cells 9 and 10.
- 2.0 Crest Pad 9 and 10 Total Energy was on-site to program the SCADA system in MO-481.
- 3.0 <u>Tank #4</u> ESI continuing installing primary liner in Tank 4. ESI extrusion welded the floor panels to the wall panels. After the panels were welded, CQA observed ESI vacuum testing all welds.

In addition, Stratton Surveying was on-site to complete the as-built survey of the primary geomembrane in Tank #4.

ENVIROTECH - COA

DATE

M1 Page 374 of 376





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-18-223 |
|----------------|--------------------------------------|---------------|----------------|------------------------------|
| Job Number: | S013213A00 | Staff On-site | Date: | Wednesday, December 15, 2010 |
| Contractor(s): | TradeWind Services | 4 | Weather: | Cloudy: Hi: 45°F Lo: 27°F |
| | an analysis | | | Wind: 16-mph |

| FIELD NOTEBOOKS | | | | |
|--------------------|--------------|-----------------------|--------------|--|
| Joe Voss Book 3 | Pages: 61-62 | Tyler Williams Book 4 | Pages: 69-71 | |
| James Schut Book 3 | Page: 27-28 | | | |

| LABORATORY TESTING | | | | |
|-----------------------|-------|--------------------------|--|--|
| 5-18M Operations Soil | OP-71 | USCS: Passed | | |
| 5-18M Operations Soil | OP-72 | USCS: Passed | | |
| 5-18M Operations Soil | OP-73 | USCS: Passed | | |
| 5-18M Operations Soil | OP-74 | USCS: Passed | | |
| 5-18M Operations Soil | OP-75 | USCS and Proctor: Passed | | |
| 5-18M Operations Soil | OP-76 | USCS: Passed | | |

CONSTRUCTION ACTIVITIES

- 1.0 Tank #4 ESI is continuing installation of the primary liner in Tank 4. CQA observed ESI placing all the anchor bolts into Tank 4. After the anchor bolts were installed, TWS filled the tank to the 1-ft level and LLS located seven (7) leaks during electronic leak testing on the floor of the tank. TWS began pumping the water down.
- 2.0 Tank #3 After the Tank 4 primary geomembrane installation was completed, ESI began cutting the secondary geomembrane in Tank 3 to correct the trampoline. ESI installed three (3) new panels on the walls to remove the stress in the liner. The torn liner was pulled up, allowing for fresh bolts holes in the secondary geomembrane. CQA observed ESI patching the old bolt holes, shifting the location of all patches. On the north side of the tank.

In addition, American Electric began trenching the conduit into the ground for both Tank 3 and 4.

ENVIROTECH-CQA

12/20/10 DATE

M1 Page 375 of 376





| Project ID: | 01-0032 ERDF Cells 9-10 Construction | | Report Number: | 5-18-224 |
|----------------|--------------------------------------|---------------|----------------|---|
| Job Number: | S013213A00 | Staff On-site | Date: | Thursday, December 16, 2010 |
| Contractor(s): | TradeWind Services | 5 | Weather: | Pt. Cloudy: Hi: 45°F Lo: 27°F Wind: 16-mph |

| FIELD NOTEBOOKS | | | | |
|--------------------|--------------|-----------------------|-----------------|--|
| Joe Voss Book 3 | Pages: 61-62 | Tyler Williams Book 4 | Pages: 69-71 | |
| James Schut Book 3 | Page: 29 | | Ann a september | |

| FIELD TESTING | | | | | |
|---------------|------------------|--------|-----------------------------|--------|--|
| TWS Sub | mittal 5-06: ATP | Cell 9 | Thursday, December 16, 2010 | Passed | |

CONSTRUCTION ACTIVITIES

- 1.0 Ancillary Work Stratton Surveying was on-site to capture the as-built survey of the construction roads, concrete slabs, and electrical conduit.
 - After the survey was completed on the electrical conduit, American Electric backfilled the trench. Since the trench was approximately 2-in wide, CQA could not accurately obtain a compaction reading. CQA observed American Electric compacting the trench by trackwalking with construction equipment.
- 2.0 Crest Pad 9 TWS successfully completed the Acceptance Test Procedures (ATP) for Cell 9 Crest Pad Building. Two glitches in the SCADA programming were detected during the ATP. Both errors were quickly remedied and the testing resumed.
- 3.0 <u>Tank #3</u> ESI continued repairs on the secondary geomembrane in Tank 3. ESI placed nineteen (19) panels in Tank 3, to complete repairs to the secondary geomembrane trampoline. After the panels were welded, CQA observed ESI non-destructively testing all repairs and each seam on panels S-17 to S-35. CQA verified that destructive sample DS-04 on Tank #3 met specifications.
- 4.0 <u>Tank #4</u> ESI completed the seven (7) repairs to the primary geomembrane in Tank 4. After the repairs were completed, LLS leak tested the floor and found no leaks. TWS then began filling the Tank to the 7-ft level. In addition, Stratton Surveying was on-site to capture all the new repair locations in Tank 3.

ALE/L ENVIROTECH-CQA

12/20/13 DATE



FINAL REPORT
CONSTRUCTION QUALITY ASSURANCE (CQA)
ENVIRONMENTAL RESTORATION DISPOSAL FACILITY (ERDF)
SUPER CELLS 9 & 10
SUBCONTRACT \$013213A00
010.032-00-ROB

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WEEKLY PROGRESS REPORTS